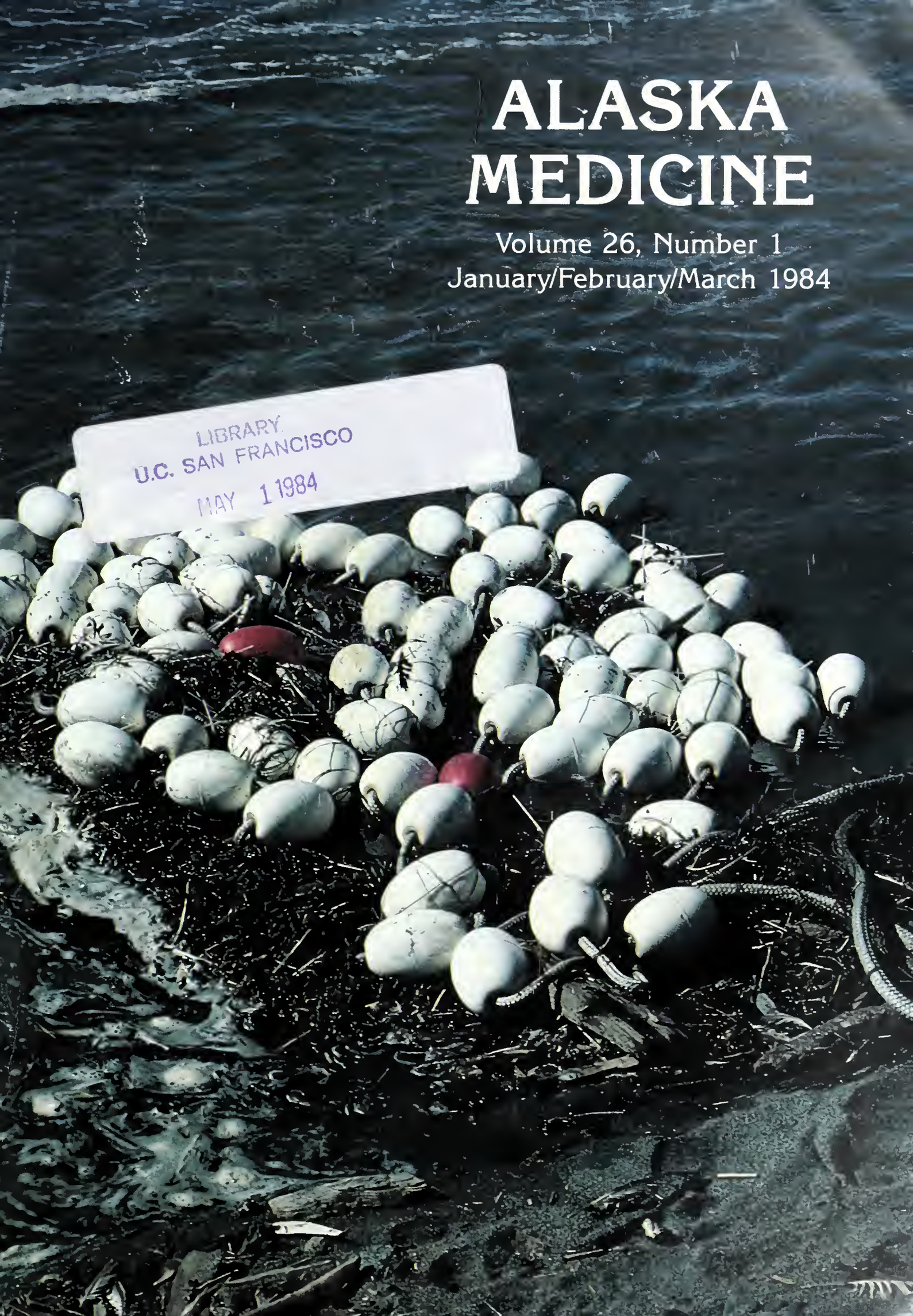

ALASKA MEDICINE

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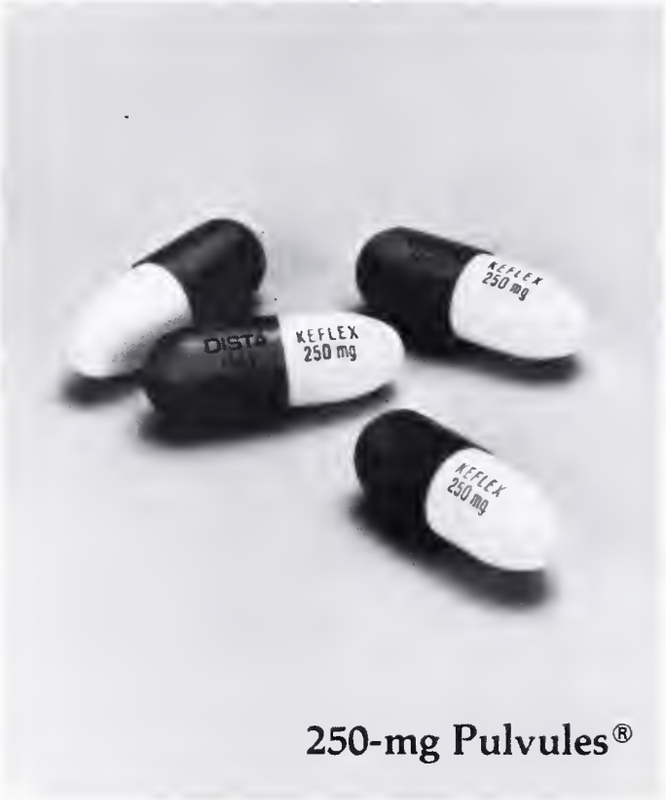

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COMPUTERIZED PROJECTIVE TESTING AS AN AID IN MEDICAL DIAGNOSIS

Wilfred A. Cassell, M.D., F.A.P.A.

There are many Alaskan scenes of snow covered mountains arising from the sea that stimulate breathtaking visual imagery. A picturesque example is Mount Susitna, across Cook Inlet from Anchorage. When the sun sets behind this mountain, its profile with the colored sky and water reflection is remarkable. The visual image stimulated in consciousness by this vista resembles the outline of a woman's body. The Indian name "Susitna" means "sleeping lady".

There are many other examples throughout the world where the shape of land configuration or lakes stimulates body images in the viewer's consciousness (e.g. "Finger Lake" region, upstate New York). The technical name for this perceptual process is projection. People project attitudes to the body not just in relationship to the natural environment, but also in viewing artificially created visual stimuli such as inkblots and electronic video media. Studies indicating that patients project somatic symptoms and attitudes to the diseased body in viewing such material are of particular interest to physicians.

Body image theory proposes that every individual has a unique and highly personalized system of attitudes, both conscious and unconscious, which are projected onto the body as a spatial entity. These interact with feedback sources and internal sensations. Relatively discrete mental representations exist for particular somatic regions which constantly compete for full registration in consciousness. Thus, somatic awareness transiently increases in the states of hunger, physical exertion, emotional arousal, and sexual excitement. Subsequently, the mental representations in the body once again fall into the background of consciousness.

Alterations in body perception also occur with physical illness. In the diseased body, pathophysiologic processes give rise to percepts from the diseased area which in turn impinge upon awareness. The prospective patient's sensitivity to these will partially depend upon the person's preexisting body concept. Sensations arising from regions assigned high priority in the body gestalt are more likely to register than those from more perceptually silent areas.

If the sensations are subjectively considered to be aberrant, the individual must then evaluate their significance. At this stage, the person makes a type of layman's "diagnosis". Intense pain or gross changes in body functioning are readily distinguished from normal body processes. However, other alterations--especially in the early stages of disease formation--pose problems in subjective interpretation. Under these conditions, the individual's cognitive appraisal of the altered body state is influenced by numerous factors such as age, sex, socioeconomic status, past medical history and family history of disease experience. There may be strong motives to adopt the sick role which are either conscious or unconscious. An example of the former would be a desire to be declared sick and unable to work in order to obtain disability compensation. An example of the latter can be a stress induced wish to regress to an infantile dependent position and to be taken care of by a parental figure (e.g. physician, nurses).

The interaction between these multiple determinants influences whether or not the individual adopts the role of patient by consulting a physician to report these subjective experiences. "Symptoms" reported in the early stages of the patient's

initial visit represent verbal communications containing spatial reference to specific organ images within the body image. The information content reflects altered anatomical awareness associated with the patient's belief that the given region has impaired function.

After hearing the "presenting symptoms", the physician begins to formulate a series of diagnostic hypotheses concerning the nature of the underlying disease processes. Based upon these, the doctor initiates a formal medical interview with basic questions designed to uncover the pathological significance of the somatic symptom clues. In most instances, the insightful physician will be in a relatively strong position to establish a working diagnosis upon completion of the history. In this situation, there really is not a strong need for additional aids in diagnostic interviewing, such as those available through the use of projective techniques.

However, at times, the diagnostic formulation is not clearcut. Patients may present symptoms which do not fit into recognizable disease patterns. There may exist major obstacles in communicating with the individual. Some people may minimize or deny their physical illness while other exaggerate them. For example, the psychological course during hospitalization following myocardial infarction is markedly different for men than women. Men exhibit more denial and associated diminished reporting of pain (1). Another example which should have special relevance to the reader involves physicians who, as a group, typically tend to deny personal symptoms and illness in themselves (2). Given the psychophysiologic complexity of this process, there is frequently a need for aids to facilitate the communication and diagnostic understanding of somatic symptoms. The projective techniques to be described in this article would appear to have certain promise in the endeavor.

Historical roots

Interest in the symbolic significance of the human body can be traced back to the very dawn of civilization (3). Indeed, the preoccupation with the subject, evidenced by ancient wall paintings and stone carvings, distinguish *homo sapiens* from less symbolically able species. Pictorial representations of the body have been a central theme of artistic expression and humanity's search for identity throughout history. Philosophically, such representations are attempts to integrate mental and physical phenomena rather than isolating or reducing them as in Cartesian mind-body dualism.

Clinical interest in body perception dates back to studies of phantom limb by Ambrose Pare in the sixteenth century. Subsequently, the term *schema* pertaining to body orientation was introduced (4). Additional terminology was employed to represent *knowledge* or *consciousness* of the body, *body image*, body *cerebral representation* or the body as a preconscious physiological function (5,6,7,8,9).

Early workers were also aware that body perceptual phenomena exists at various levels of consciousness. Thus, mental representation pertaining to perceptual data from the body were included under the term *schema* in the preconscious state and referred to as *images* when the material entered central consciousness (10).

All these terms refer primarily to neurophysiologic concepts. Because of the complexity of underlying phenomenology and the lack of adequate psychological assessment of body perception, these concepts remained vaguely defined for many years. A common theoretical construct was that body awareness reflects an interaction of consciousness between present situations in the viscera, muscles, joints, skin, and memory engrams of past but similar data. Pathologic conditions in which the body was perceived as being larger or smaller also led to the introduction of concepts related to spatial organization of the body or *sense d'espace* (4). Early workers considered that the parietal lobe could be divided into areas in which aspects of specific body regions had a central neurologic basis (11). This view is similar to modern studies indicating that portions of the parietotemporal cortex and thalamus are involved in processing information vital to body perception (12).

The *Somatic Inkblot Series (SIS)* is a set of twenty cards, each depicting a semi-ambiguous visual stimulus based on specific anatomical structure and designed to elicit a subject's somatic percepts (13-17). The cards, printed in black, red and gray (screened black) on white card stock provide just enough obvious anatomical structure to evoke spontaneous verbalizations but not enough to limit the responses solely to the naming of body parts or colors. In this way obvious anatomical structure provides a feeling of security to make deeper more symbolic repressed material more accessible to the person being tested.

Somatic Video Procedure (SVP)

The somatic video inkblot procedure was developed as an extension of the Somatic Inkblot Series. If Rorschach--the psychiatrist who pioneered work in the field--were alive today, it is likely that he would employ the media of the day--electronic video techniques. Most people are familiar with viewing television and computer video screens. Also, electronically created images may be viewed in a color-form-movement presentation which visually approximates organs such as the beating heart and expanding lungs.

Case Illustrations

Certain case histories are presented to illustrate how a subject's idiosyncratic body percepts emerge from the associations to the semi-ambiguous,

visual stimuli of the SIS and SVP. In reviewing the material, the reader is encouraged to create in his own consciousness a mental image of each inkblot being discussed. These are presented in figures 1 and 2. They will provide a mental picture with which to compare the patient's response pattern. While this requires additional energy on the part of the reader, it is more likely to result in a more thorough understanding of the rational and methodology.

Case 1 is a 66 year old woman who was evaluated in an outpatient medical clinic. In reviewing her projected anatomical responses, the medically trained reader is encouraged to attempt to make a preliminary diagnosis on this variation of the standard medical interview. Her responses follow:

Card I: A chicken

Card II: A heart. A person's mouth.

Card III: A person badly crippled up.

Card IV: Another person badly crippled up. He has a disease in the muscles.

Card V: A person with some kind of disease in the stomach, like I had when it first started. The arthritis showed everything then. I can picture myself, muscles and hands swollen.

Card VI: A disease in the neck. Cancer or ulcer in the lower body. The rest of the body is all inflamed. I had an ulcer and cancer on the womb.

Card VII: A person all diseased in the muscle, arthritis or something else. It started in the neck and went to the bottom.

Card VIII: Something on the lungs, or liver, ulcer or cancer--it eats it all up in your body.

Card IX: There is the kidneys. No, the lungs. They're full of fluid. I had that, too. If there's not enough circulation you can't pass water.

Card X: This is your hip (patient rubs her hip). This is where everything's inflamed from arthritis, from your spine to your neck. I had that often.

Card XI: This is flaring up from the bottom, like where your side to your neck are full of disease. It could be arthritis or cancer that grabs you like that.

Card XII: Here it flares from your arms, your muscles all in your shoulders. It could be flaring up from arthritis or cancer. There are all kinds of diseases.

Card XIII: This is your bottom part, your hips when it could go to your liver. Lungs, whole side to the neck. It could be arthritis. Cancer or some fluid in your body.

Card XIV: This is your heart, how your heart works. It enlarges and has too much fluid around it.

Card XV: That's your spine, full of arthritis. Some of the places that put bone out. Too much on top. Fluid.

Card XVI: Isn't this your heart, too? The heart is so full and the rest of the body has cancer.

Card XVII: This is your lower body. It has too much dried out, that's why you can't walk, down to the spine and up to the neck, arthritis or other disease.

Card XVIII: This is your mouth where you can easily get a disease. You can get it in your teeth. Arthritis or some other kind. It could be cancer or ulcer in the throat.

Card XIX: This looks like it's the body, the lowest part (points to pelvic region), that's where it flares out. It has all them muscles hardened.

Card XX: The black parts are your lungs. They have fluid spreading. It could be almost anything. On the bottom it's the same thing, cancer or ulcer flared up.

If one assumes that this woman's responses reflect a direct projection of her health attitudes associated with the body image, the following analysis evolves. Firstly, there are several references to arthritis; Cards III, IV, V, VII, X, XI, XII, XIII, XIV, XVII, XVIII, and XIX. Consistent with this, she had a history of severe rheumatoid arthritis.

Next it might be noted that she viewed herself, in responding to Card V, as "a person with some kind of disease in the stomach". In viewing Card VI, she speaks about seeing "an ulcer in the lower body". With Cards VIII and XV, there are references to "ulcers". Consistent with these responses was the fact that she had a history of peptic ulcer disease involving the stomach. While this may not seem like a practical way to take a medical history, it does illustrate how one may learn about an individual's subjective perception of disease from the analysis of somatic projective responses. It is hoped that the perceptual principles illustrated by this case may be eventually refined and made available in a practical way to practicing physicians through the use of computer assisted content analysis techniques.

Sometimes the approach may be indicated if the physician believes the patient may be consciously fabricating clinically convincing simulations of disease in order to obtain narcotics or other gains associated with the sick role.

Case 2 is a 19 year old male subject with a history of Munchausen's Syndrome and who experienced distressing somatic symptoms at times of personal crisis. Somatic symptomatology was precipitated by situations that threatened his poorly established masculine identity and were focused in the abdominal region. He had consulted numerous physicians in several cities and had received over fifteen laparotomies. Abdominal adhesions resulted from the multiple surgery with two incidents of bowel obstruction. To Card X, he responded: "This almost seems to me to be a bowel obstruction. You know, this right here (pointing to the central lower area), a blockage of some kind. Somehow it's being varied and controlled by this (upper object) which seems to be the heart." To

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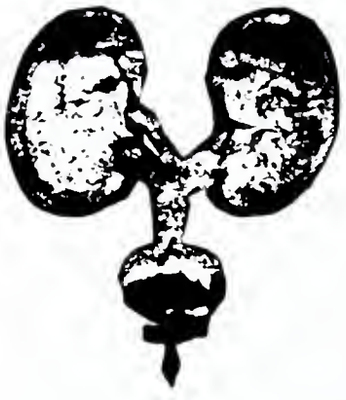

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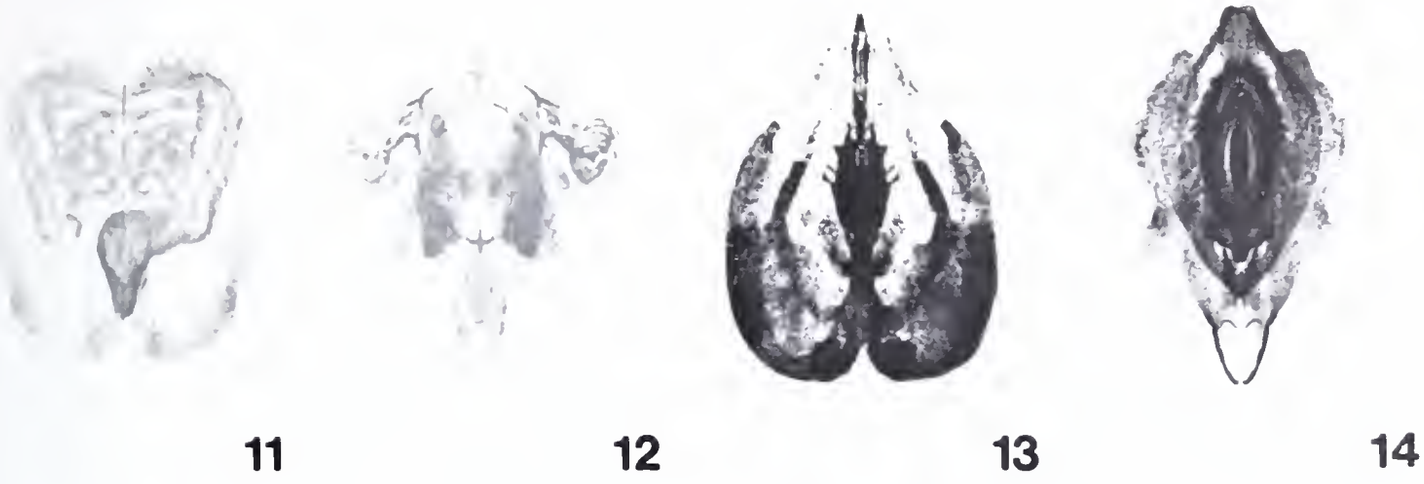
Figure 1



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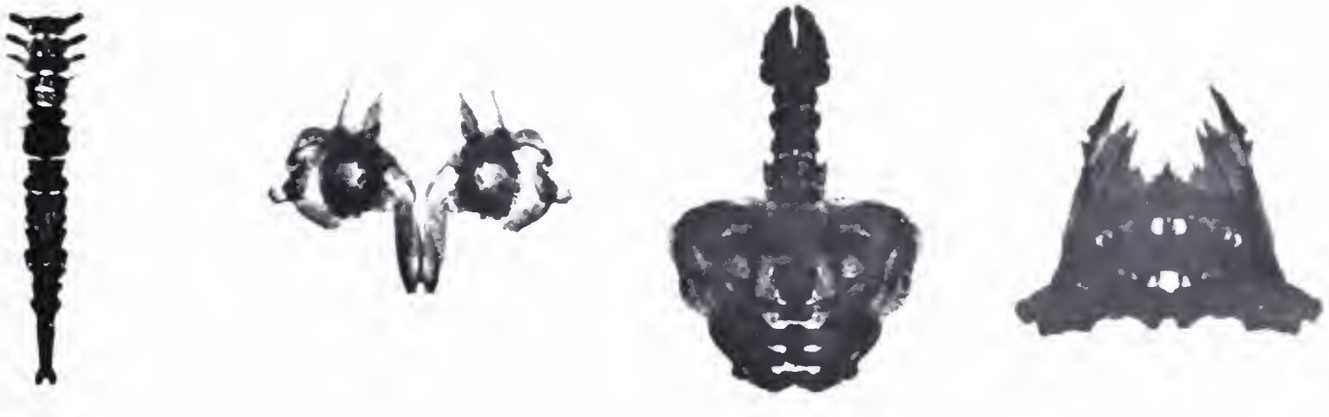

15 16 17 18

19 20

Figure 2

Card X, he responded: "It looks like the stomach, this being the esophagus. It looks as though something is definitely wrong with it. You know, it's misshapen. It looks like some kind of growth or tumor in the stomach." It is evident that these responses involve the subject's own unique perception of his own physical condition than merely the structural realities of the inkblots.

Another important application involves evaluating patients prior to surgery in terms of understanding the psychological significance of their somatic symptoms and physical problems.

Case 3 is a 67 year old female who developed a post operative psychosis after removal of a malignant breast tumor. After surgery, she claimed the surgeon was her true husband. She denied the reality of the surgery and believed her breast would grow back. She denied fear of cancer and of dying from it. When presented with the somatic inkblots she was unable to give any response whatever to any but the last card, to which she quickly responded: "It looks like a teat". Detailed inquiry clarified where she saw this anatomical imagery: in the white space surrounded by the black central lower figure. The anatomical response was an indication of her unconscious breast anxiety. Subsequent interviews and therapy sessions confirmed that the unconscious material from her body schema was disrupting her mental functioning, an underlying psychodynamic reactive psychosis. The repressed material was emotionally disturbing to her because of the physical association, an altered feminine appearance, and also the cognitive association of having a life threatening disease, namely cancer. If the clinician had simply accepted the woman's initial denial or employed nonproductive tests or questionnaires, vital clinical information might have been missed.

Case 4 is a 10 year old boy referred because of agitation and anxiety about surgery for inguinal hernia and hydrocoele of the testes. His fear was he would awaken after surgery without a penis, in psychoanalytic terms, manifest castration anxiety. He saw "a cut open chest with drops of blood" in Card VI. In detailed inquiry, he added that "robbers had cut it open." Card VII was seen as "a horse with with a bloody heart around it", and added later that "a guy shot it". This projective material suggest in symbolic fashion somatic anxiety about the cutting effects of surgery. Card XIII was seen as "another part of the body, like my hernia", a direct projection of his somatic preoccupation. An individual facing surgery often has an elevated body anxiety level and this will be reflected in projective respones to somatic inkblots.

Projective Testing in Depression

This projective technique may also be used as a clinical aid in identifying patients who are clinically depressed but who either fail to recognize their depressed mood or who elect not to report it. It is important to identify such individuals to avoid unnecessary diagnositc procedures.

Before illustrating how such individuals may be identified by projective testing, a body awareness conceptualization of depression will be presented. While some episodes of depression may occur primarily as a result of genetic or other biological factors, more commonly depression develops after reaction to the loss of a love relationship or a disappointed fantasy situation. With regard to the former, most individuals are essentially incomplete as a psychobiological unit without a close love relationship. For example, it is well known that single people have more health problems than the married. Research on "life change units" indicates that the most stressful and health destructive psychosocial change for a married person involves the death of a spouse. It is particularly true for males who do not adjust to bereavement as well as females.

Aside from the classical overt symptoms of depression such as dysphoric mood, there are certain underlying vegetative symptoms of depression. A central focus within the body image is the stomach with the depressed person's regressed wish to be fed by a maternal figure. There may be a history of poor appetite and significant weight loss. Somatic symptoms may focus on the oral region, the esophagus, the stomach, and the bowels. Indeed, the term "hypochondriasis" relates to the focus of somatic concerns on the abdomen or hypochondria. Projective tests can show a heightened awareness for anatomical imagery related to these organ systems. When depressive attitudes are projected onto the body image, there can be an increase in pathologic anatomy responses indicating the body is diseased in some manner. Clinically it can be associated with imaginary health concerns. An example of this is Case 5.

Case 5 is a 33 year old woman with long standing depressive feelings. She responded to a somatic video configuration as follows: "It looks like a globe at first then, as the patches grow, it feels like they are cancers growing around me". A physician who has access to such projective data is more likely to correctly identify her masked depression and latent fears of cancer.

Another cardinal projected feature of depression involves feelings related to the chest and cardiac area. A depressed person, after losing a loved one may speak in body language as "it feels like part of my heart has been torn away". Case 6 is a middle aged man referred for treatment of depression. He was unable to function in his role because of severe mental symptoms (depression, irritability and difficulty in concentration). His symptoms had developed when the woman he loved left him. In terms of body feelings in the initial stages of

hospitalization when depressed, he reported feeling an "emptiness" and chest pain which he referred to as a "broken heart". It is not surprising he saw a "broken heart" on Card VII.

Alcoholism

Alcoholism represents a major problem in Alaska. While many patients suffering from this condition are readily open in reporting their alcohol abuse, experienced physicians will recognize frequently it is not the case. The patient may choose to deny the true nature of the problem. In extreme instances, they may not admit to it while dying from the long term affects of alcohol.

Alcoholics who are denying their problem may give away their health concerns in specific anatomical responses pertaining to the organ systems likely to be damaged by longterm alcoholism. Case 7 is a 55 year old man who responded to one of the somatic video images with very low anatomical structure as "internal organs". When questioned about his responses, reflecting heightened internal awareness he said: "The organs could be the liver (fears of cirrhosis) and the pancreas" (fears of pancreatitis).

Somatic Repression

Establishing the validity of the somatic projective techniques is complicated by the fact that, at times, patients with somatic disturbances show reduced sensitivity to anatomical cues in the region giving rise to symptoms. The term "somatic repression" refers to the phenomenon. Existing inkblot tests such as the Rorschach lack definite anatomical structure and the repressive mechanisms for somatic disturbances cannot be clearly identified, easily quantified or further evaluated. Patients who are suffering from psychogenic pain and/or psychogenic motor paralysis, as well as detectable hysterical losses of regional body sensation, are particularly prone to have somatic repression of the involved body areas.

Case 8 is a 26 year old black divorced woman who had developed incapaciting back pain, numbness and weakness shortly after a highly stressful life event. After chiropractic treatment failed, she visited a physician who referred her to a neurologist who diagnosed "hysteria". In psychiatric examination she had an infantile voice and childlike manner. She had adopted the sick role and insisted upon being viewed as physically sick rather than psychologically disturbed.

Certain insights were obtained from a projective analysis of her responses to the SIS. Card XV depicted the site of her conversion pain. She saw "Oriental art" rather than the spinal structure inherent in the somatic inkblot. This represented a highly paradoxical finding. Her pain reflected exaggerated back awareness, yet in the projective test situation she repressed anatomical imagery depicting this aspect of her body image. The repression did not involve all body areas in that she had many "heart" responses during the test.

A similar phenomenon was noted in regard to her response to Card XVII which also depicts the spine. Figure 2 includes somatic structure suggestive of the pelvis. In viewing this inkblot she totally repressed and avoided any reference to the spine. For the lower pelvic-like aspect she responded as follows: "It looks like a mad face". In exploring the symbolic significance of the response it was learned that the "face" symbolized a man with whom she had been living prior to the development of her conversion reaction. Her back pain and other physical problems had developed after he had been arrested for shooting someone. Reflecting a strong mental association between male imagery and destructive aggression, she had developed anxiety laden dreams involving a handgun terrorizing her.

Further inquiry revealed that because of the mental anguish and pain produced by thinking about these during the day, she had decided to block the thoughts from consciousness. She described this repressive process as follows: "I tried to be mature and not let it bother me. I tried blanking out fear. Somewhere inside I decided it wouldn't be helpful to think about the things" (i.e. the effect of the shooting incident on her). As indicated by her somatic repression in viewing Cards XV and XVII, she also repressed aspects of her own body image. The unresolved mental anguish was converted to physical pain and experienced in the back.

Next attention will be given to her responses to two cards with sexual connotations. In viewing Card IX depicting the male urogenital system, instead of seeing "kidneys" for the upper areas of the inkblot she saw a "brain". The brain response reflected her desire to be seen as neurologically impaired rather than emotionally disturbed. She totally repressed the lower phallic projection and substituted Christian symbolic defensive imagery depicting in an abnormal fashion "A cross or crucifix". Female hysterics characteristically fear men and have considerable anxiety if viewing phallic material. Indeed, the term "hysteria" means a wandering uterus and implied sexual problems. Female hysterics repress genital sensations and experience sexual discomfort and failure to climax during sexual arousal.

For Card XIV depicting external female genitalia she again showed somatic repression. The imagery that she did report was as follows: "A flower. It's not too realistic, although I have come across flowers that God created that could only be from a page of a coloring book". Here two aspects of her symbolic defenses are noteworthy. One involves another religious defense, *i.e.* "God created". The other involves the regressive aspect implied in the

reference to a child's "coloring book".

The last aspect of the projective analysis to be considered pertains to her extreme age regression in the body ego. In viewing Card XII, instead of correctly recognizing the "intestines" she saw "A big mouth with a tongue sticking out". When she adopted the sick role she had assumed a passive orally dependent position where she wished to be symbolically fed by members of the health care profession. For Card VIII depicting the thorax, she repressed the anatomical content responding "Grasshoppers or birds. An art form. Funlooking bugs in the center with *their young in a little coccoon*". This symbolism reflects her unconscious desire to retreat to a psychologically safe intrauterine position.

Discussion

A content analysis of social discourse in many settings, clinical interviews, daytime fantasies, and nighttime dreams frequently reveal a high instance of body language directly or in disguised symbolic form. This is particularly the case for medical interviews where the subject of one's own health or that of a loved one is of paramount importance. A physician in training who learns to correctly interpret this symbolic body language in the context of his understanding of pathophysiologic processes associated with specific disease categories is more likely to be diagnostically accurate and more empathetic than a physician without the skill.

The medical student who is exposed to the SIS and the SVP will have more vivid, "laboratory experience" in an area difficult to teach because of the complex nature of such constructs as body projection, spatial displacement of body anxiety, somatic repression, age regression of the body ego, and death anxiety. The use of tape recordings of patients with various diseases who are responding to the projective somatic stimuli would illustrate first hand how the concepts operate.

The procedure may also be used as an educational technique for identifying unresolved body image anxieties that medical students may have themselves. While these may involve many body regions, the novice may have particular anxieties in the sexual area. An example is an unmarried female pre-med student who was a subject in a psychophysiological study in which heart rate and blood pressure were monitored while she responded to the SIS. Her responses were essentially normal until she saw Card XVII. At that moment her previously relaxed effortless delivery changed dramatically. She gasped, stared at the card and was momentarily speechless. Her heart rate accelerated and her blood pressure dropped dramatically. After a lengthly pause she whispered in shock: "It looks like a penis". Unless the woman resolved her sensitivity to phallic imagery, she could have resistances in interviewing and examining men, especially in regards to evaluating diseases involving the genitalia.

Another application of the projective techniques is in clinical investigative medicine. There is evidence to suggest that, in psychopharmacology, body image variables can relate to drug response. There is also work to indicate that relationships exist between body awareness and the channeling of psychophysiological activity in certain organ systems, which could play a role in certain individuals developing stress related diseases.

Another promising area for investigation involves the use of these projective techniques in the clinical assessment of patients in the very early stages of physical disease. Traditionally, this has been the domain where the standard medical history plays the fundamental role. In future medicine, the somatic projective techniques may be able to augment the data obtained in traditional diagnostic interviews. Somatic responses can potentially yield valuable data involving early body perceptual changes and subjective "body clues". Investigation to detect these by projective testing in the presymptomatic phase, when percepts have partially registered in consciousness but are not yet cognitively labelled by the subject as somatic symptoms, could have value. Future research will ascertain if this information could be a useful diagnostic psychological instrument for screening subjects for the early detection of certain forms of disease, such as slow growing tumor of internal structures.

The approach also has implications for future medical technology such as that associated with space medicine. Diagnostic interviews may have to be conducted great distances through twenty first century audio and visual communication technology. The somatic projective techniques which have been outlined provide an aid for such futuristic medical work.

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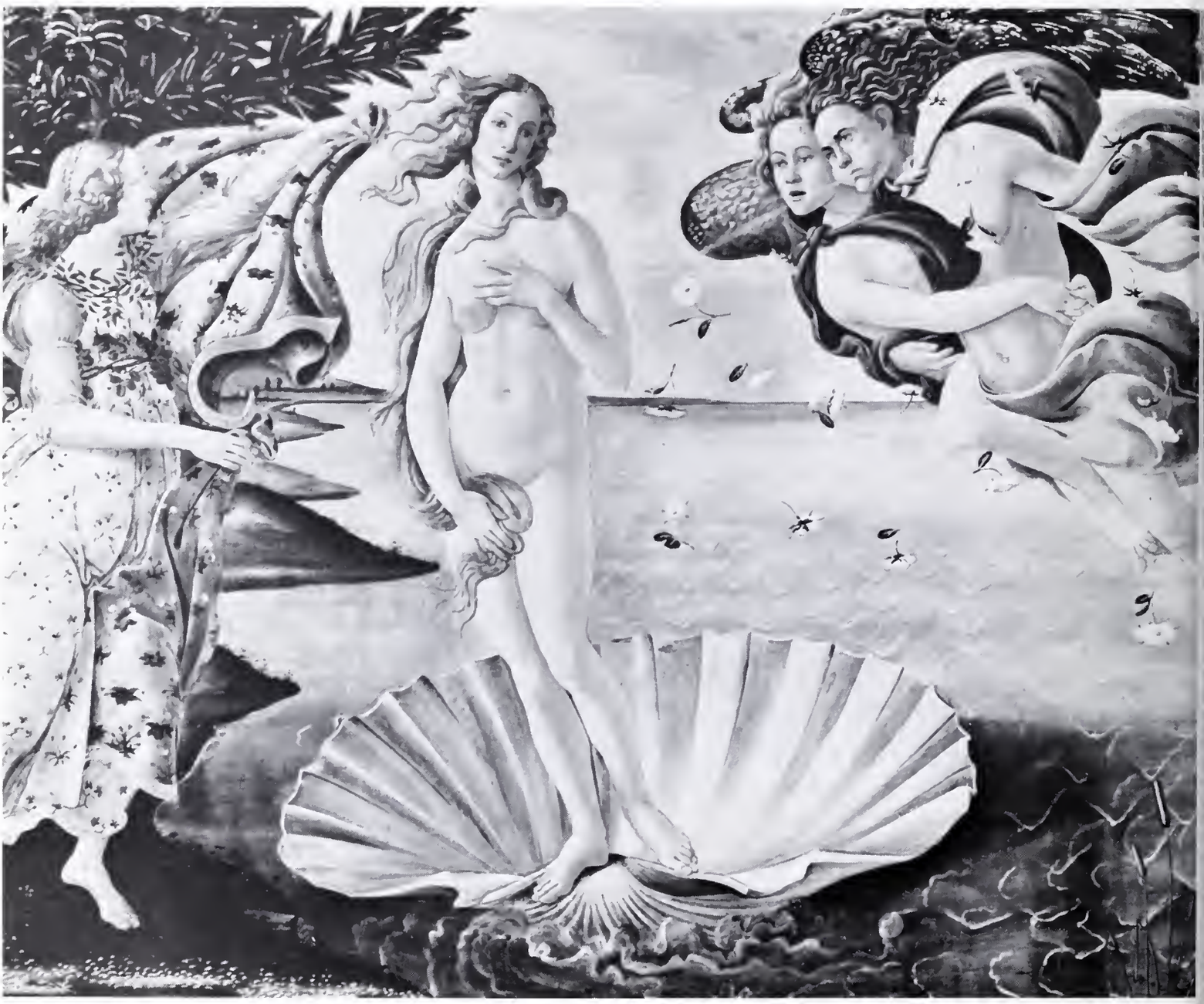
Mammography can detect breast cancers even smaller than the hand can feel.



For too many years breast cancers that could have been cured could not be found. The only means available was the human hand. When mammography (low-dose x-ray examination) proved it could detect lumps infinitely smaller than fingers could feel, at minimal risk, a great breakthrough was achieved. Now there is hope that the leading cause of cancer deaths in women will lose its place in our lives.

Women, without symptoms of breast cancer, ages 35 to 39, should have one mammogram for the record; women 40 to 49 should have a mammogram every one to two years, and women 50 and over, once a year. All women are advised that monthly breast self-examination is an important health habit. Ask your local Cancer Society for free information on mammography and breast self-examination.

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CLINICAL USE OF CALCIUM CHANNEL BLOCKERS

William P. Mayer, M.D., F.A.C.C.

The **calcium channel blockers,** also known as slow channel blockers, calcium influx antagonists and calcium antagonists, are a group of drugs that have been clinically available in the United States since early 1982. Their mode of action was described by Fleckenstein as inhibition of transcellular calcium influx in cardiac and vascular smooth muscle.

Mechanism of Action

In working cardiac muscle cells, contraction is initiated by cellular depolarization, usually arising from electrical discharge of the sino-atrial node. Depolarization of the working myocardial cells results in electro-mechanical coupling, that is, the electrical event leads to muscle contraction. Although much is unknown about the associated mechanisms it is clear that as the depolarization wave reaches the working myocardial cell, channels open to calcium movement from the outside to inside of the cellular membrane. This results in additional release of calcium from intra-cellular structures such as the sarcoplasmic reticulum. Intra-cellular calcium rises to a sufficient level to bind the inhibitor protein troponin which thus allows actin and myosin to couple and shorten. Inhibition of calcium movement by calcium channel blockers may therefore inhibit cardiac muscle contraction at the cellular level.

In certain portions of the cardiac electrical system, especially in the SA node and AV node, transcellular and intra-cellular calcium movement have profound effects on the rate of pacemaker discharge and the rate of electrical conduction. Clinically, use of these agents may result in slowing of the rate of pacemaker discharge or inhibition of conduction within the AV node.

In smooth muscle this situation is somewhat more complex. Smooth muscle contraction may be initiated by both electrical depolarization or by activation of receptor operated channels which respond to chemical stimulators such as Norepinepherine. When smooth muscle is activated by either mechanism calcium moves from the outside to the inside of the cell triggering further calcium release. When calcium concentration rises to a sufficient level within the cell it causes activation of **calmodulin** resulting in activation of **myosin light-chain kinase** leading to phosphorylation of **myosin light chains** which results in the interaction and contraction of **actin** and **myosin.** By inhibiting calcium flux these agents lead to decreased smooth muscle tone and contraction strength.

Available Agents

Three calcium channel blockers are available for clinical use in the United States. **Verapamil,** sold under the trade names of **Calan** and **Isoptin,** was the first such agent available in the United States for clincial use. It is available in an IV and oral form. It is useful for a wide spectrum of clinical problems but due to its unique effects on the SA and AV node is especially useful for the treatment of various supraventricular tachyarrhythmias, such as PAT, atrial flutter and atrial fibrillation.

Nifedipine, sold under the name of **Procardia,** is available as a liquid containing capsule which can be used for oral or sub-lingual administration. It was initially shown to be useful for treatment of vasospastic angina, i.e. Prinzmetal's angina but it is also useful for treatment of a wide range of clinical problems.

Diltiazem, sold under the trade name of **Cardizem** available only in oral form in this country, is useful for the treatment of ischemic chest pain and possibly hypertension and tachyarrhythmias.

Clinical uses

1. **Ischemic heart disease:** Up until 10 years ago the common understanding of coronary artery disease suggested that the problem was similar to

corrosion in a water pipe. It was felt that atherosclerosis resulted in narrowing of the lumen of the coronary arteries resulting in a limitation of blood supply. Patients became symptomatic, that is developed angina, when the oxygen needs of the myocardium exceeded this limited supply.

Over the past 10 years this simplistic explanation has been strongly challenged. What has become clear is that the coronary arteries contain smooth muscles in their wall and that this smooth muscle may contract leading to further narrowing thus leading to ischemia. Thus, ischemia may develop via two mechanisms; first, an increase in myocardial oxygen demand in response to increased heart rate or blood presssure, or decrease in myocardial oxygen supply due to dynamic narrowing of a coronary artery. This coronary vasoconstriction or vaso-spasm may occur in areas of the coronary arteries which are already partially narrowed due to atherosclerosis or may involve atherosclerosis-free segments.

Coronary vaso-spasm appears to be the primary mechanism underlying the syndrome of Prinzmetal's angina. In this condition, which is typically seen in women, chest pain develops primarily at rest, has a typical ischemic character and is quickly relieved in most cases by Nitroglycerin. Generally it has a good prognosis, however, some patients go on to myocardial infarction or sudden death presumably due to ventricular dysrrhythmias or high grade heart block.

Coronary vaso-constriction may also be important in the syndrome of unstable angina where dynamic limitation of coronary diameter is generally super-imposed upon a pre-existing atherosclerotic obstruction. Vaso-spasm probably plays little role in the majority of patients with stable exercise induced angina where fixed obstruction is the primary mechanism.

Calcium antagonists have been shown to be extremely effective in the treatment of most forms of ischemic heart disease.

In Prinzmetal's angina calcium channel blockers result in a marked decrease in the frequency of painful episodes, resulting in complete control in upwards of 60% of patients and partial control in almost 90%. In unstable angina these agents have been shown to alleviate chest pain in a large number of patients who are uncontrolled with beta-blockers and nitrates. Even in stable angina calcium channel blockers have been shown to improve exercise tolerance and decrease the frequency of painful episodes most likely due to peripheral mechanisms involving lowering of systemic vascular resistance.

Calcium channel blockers have been used in patients suffering myocardial infarctions in an attempt to limit infarction size and in cardiac surgery in an attempt to protect the myocardium during periods of ischemia.

2. **IHSS:** **IHSS,** Idiopathic Hypertrophic Subaortic Stenosis, (Hypertrophic Cardiomyopathy), is an abnormality of myocardial muscle development causing disordered myocardial contraction and relaxation and in some cases obstruction of the left ventricular outflow tract. It is generally an autosomal dominant transmitted disease but isolated cases may be observed. Patients generally present with complaints of shortness of breath, chest pain, dizziness or syncope, or may be discovered during evaluation of various types of systolic murmurs. This abnormality is the underlying mechanism responsible for a large percentage of sudden deaths in young athletes.

Classical treatment of IHSS involves the use of beta-blockers especially Propranolol to decrease the outlflow gradient and hopefully prevent rhythm disturbances. If this is unsuccessful, cardiac surgery with myectomy and myotomy may be advised. Kaltenbach was the first to describe symptomatic improvement of patients with this condition when treated with Verapamil. Symptomatic improvement resulting from either Procardia or Verapamil appears to be equal to or greater than that observed with the beta-blockers, however, the effect on patient longevity using any of these agents is unclear.

3. **Supraventricular tachycardias:** Over the last two years Verapamil has quickly become the drug of choice for the rapid control of various supraventricular tachyarrhythmias. Given intravenously it results in rapid control of a large majority of patients with PAT converting upwards of 80% to sinus rhythm. In atrial fibrillation and atrial flutter it results in the prompt control of ventricular rate in a large percentage of patients. Unfortunately only a minority of such patients convert to sinus rhythm with use of this agent alone.

Given in an oral form it may be used for PAT prophalaxis or for chronic rate control of atrial fibrillation or atrial flutter. When given IV the agent is more rapid in onset and dependable, with fewer side effects than previously used drugs.

4. **Hypertension:** Calcium channel blockers have been used with considerable success in the treatment of both sustained and malignant hypertension. In the former condition, Procardia and Diltiazem have been shown to be effective chronic anti-hypertensive agents improving both resting and exercising blood pressure. In treatment of the syndrome of malignant or severe hypertension sub-lingual and oral Procardia has been shown to be effective and rapid in onset.

5. **Miscellaneous:** Calcium antagonists have been used successfully in the treatment of various presumably vaso-spastic syndromes including migraine headache, Raynaud's phenomena, primary pulmonary hypertension and vascular spasm associated with sub-arachnoid hemorrhage.

Side-effects

Serious side-effects are uncommon with any of the agents now available. However, in most studies the test drug has had to be discontinued in a significant percentage of patients. Common side-effects include the development of dizziness, flushing, pedal edema, postural hypotension, skin rash, constipation, headache, nausea, palpitations or parasthesias. Rare cases of worsening of chest pain or congestive failure have been noted but are distinctly uncommon.

The combined use of Verapamil with beta-blockers is not advised due to additive effects on the electrical system of the heart resulting in sinus node slowing or AV block and due to potential additive effects resulting in worsening of congestive failure.

Some of the calcium channel blockers will cause a rise in Digoxin levels in patients taking the latter agent similar to that seen with the combined use of Quinidine and Digoxin.

Conclusions

The calcium channel blocking agents offer a welcome addition to our therapeutic armamentarium. As clinical experience with these agents continues over the next several years the clinical indications will undoubtedly increase.

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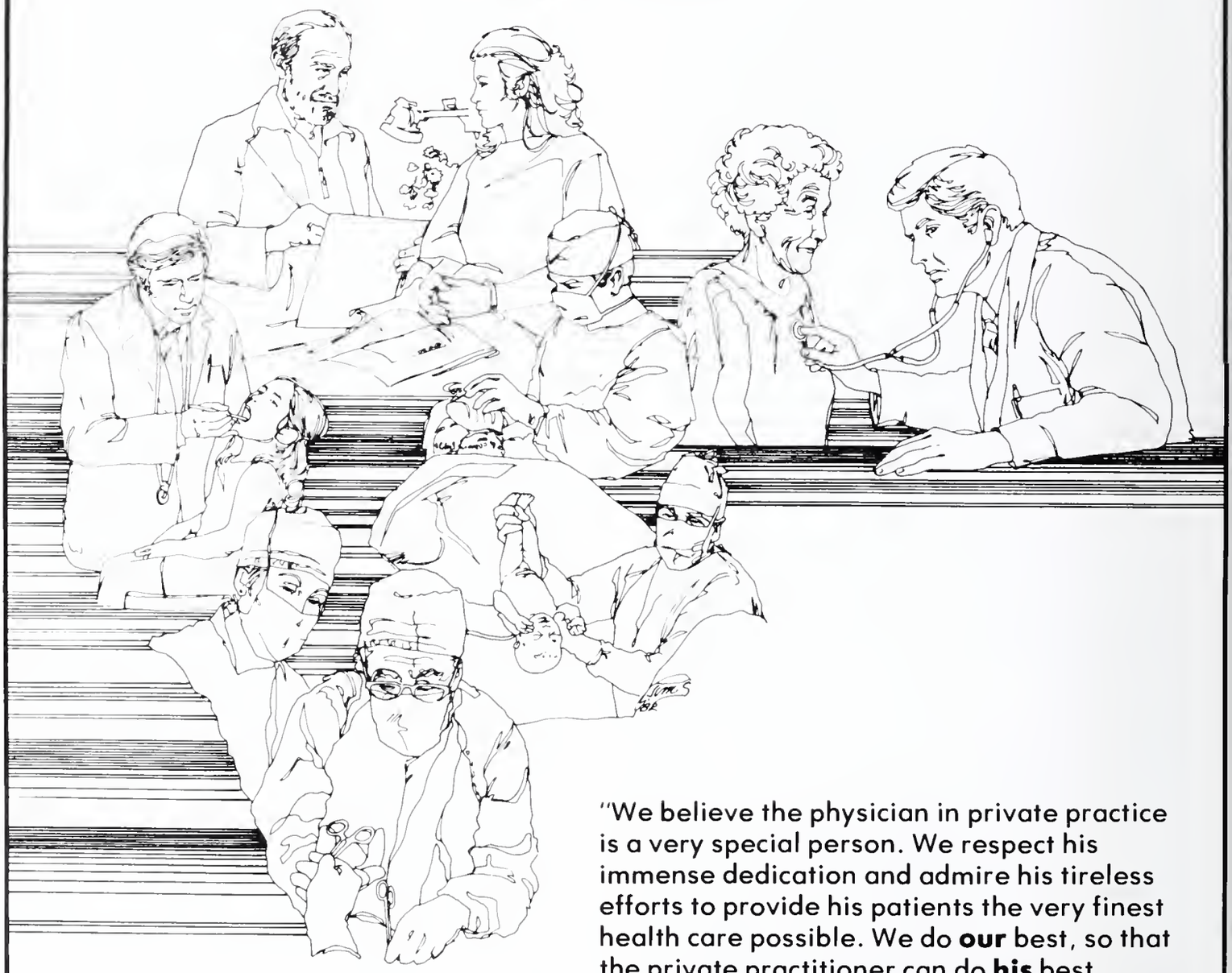

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SOME HISTORICAL ASPECTS OF THE TREATMENT OF HYPOTHERMIA

David W. Templin, M.D.

Abstract

Cold injury and hypothermia have been discussed with increasing frequency in recent meetings and in the medical literature. Although the impression is often given that treatment of these cold induced conditions is a strictly recent innovation, an expert in the field has claimed that a method of therapy for hypothermia was in use 3,000 years ago. In this communication the case report and a more recently discovered reference to the management of hypothermia are discussed.

Review of Case Reports

CASE 1 - In 1015 B.C., K.D., a 70 year old male was found to be hypothermic. The past history included employment as a sheepherder, musician, poet and solider (having risen at one time to be Commander in Chief of the Army). He was currently employed as the Chief Executive of his country.

On examination he was conscious but hypothermic. Covering with blankets failed to rewarm him and a more radical course of therapy was prescribed. Direct application of heat by the body to body heat transfer method was instituted. A fair young woman applied her body heat directly to the patient. The treatment was recorded as being successful and the patient survived, returning to his political duties and successfully thwarting an attempted coup.

COMMENT - The decreased resistance to hypothermia noted in the elderly is apparent. The use of direct body to body heat transfer as a means of rewarming has been noted as an effective (and perhaps pleasant) method of rewarming. Mills has stressed the importance of slow controlled rewarming of the hypothermia victim as a means of decreasing side effects (1).

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CASE 2 - On December 26, 1898, S.M., a middle aged Caucasian male expired on the Dawson Trail, Yukon Territory. He had been apprehensive on the previous day. The EMT, identified only as "Cap", recognizing the problems of rewarming, delivered the apparently dead patient to a primary level treatment center with facilities for rewarming. S.M. was rapidly rewarmed by direct exposure to incandescent heat sources. With no further treatment, the patient regained consciousness and was apparently responding appropriately. The document ended at this point so the ultimate outcome is unkown (2).

COMMENT - Mills has frequently expressed the danger inherent in the use of direct exposure to fire for rapid rewarming of frostbite and he has also recommended that the frostbite victim not have frozen parts warmed when there is the possibility of refreezing (3). This concept was recognized by "Cap" and was extremely important in the management of the case.

Mills has indicated that hypothermia victims as profoundly cold as the patient are in the "metabolic ice box" and when rewarmed in a controlled manner, may be resuscitated without the application of CPR (3). It appears to have been true of the patient.

Conclusion

Two case reports, one from about 85 years ago, and the other from 3,000 years ago, describe the successful rewarming of hypothermia victims.

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RISK MA

The Medical Record: Shield, or Sword of Damocles?

"The weakest ink lasts longer than the strongest memory." (Proverb)

To the physician concerned with minimizing potential medical malpractice claims, the medical record often provides the simplest and most economical defense. When reasonable medical care has been delivered, a properly prepared medical record serves as a virtually impenetrable barrier between the doctor and the angry allegations of negligence from an unhappy patient. Because the law is concerned with evidence and not truth, however, plaintiff's attorneys see dollar signs when they see poorly prepared medical records: ambiguity, incompleteness or frank error rapidly translate to greenbacks at the settlement table or at trial.

Physicians must bear in mind that they may not be called upon to testify in a given case until many years have elapsed from the time the patient was seen. In New York City, for example, cases are not brought to trial until approximately seven years after the suits have been filed. In Alaska, a child may wait until he or she reaches the age of majority before bringing suit alleging negligence in, say, prenatal care. The suit may then take years to get to trial. What physician is likely to remember the not-unusual matters of medical practice which transpired 18 or more years ago? The law is stern: if a physician's records do not contain information on a particular point, and if the physician does not have a solid recollection of that information, then the patient's version of the information will be accepted as the only evidence on that point. If the needed information is central to the physician's defense, the physician will lose the case.

Medical records must be recorded and stored with care. They must be prepared as close to the time of the events recorded as is reasonably possible. One Alaska physician was sued for malpractice after an adverse result following a surgical procedure. The procedure was one which resulted in 1% to 5% of patients suffering that adverse result, even in the absence of negligence. The surgeon did not dictate a formal note until the following day, possibly after learning of the presence of the adverse result. The trial court indicated that "careless habits of record keeping should be viewed as badges of suspicion." The trial was four years after the surgery. Because the physician had no independent recollection of the procedure at the time of trial the court found that he could not produce facts to refute the claim of negligence. The physician lost the case--not because he had actually been negligent, but because he could not produce evidence to show that he had been free of negligence. In our system of justice, the truth is irrelevant--it's the evidence which counts. Medical records should be prepared so that they will provide that evidence.

In theory, the office records of a private practitioner belong to that doctor, and not to the patient. In fact, it is usually unwise, and almost always impossible, to prevent a patient from gaining access to the medical record. Withholding a patient's chart in an effort to coerce payment of a bill often results in patient unhappiness, and a subsequent claim of malpractice. No court will allow withholding of a medical record in order to defeat a patient's claim of malpractice. For these reasons, it is sound policy to assume that at some point a court may order that a patient be given reasonable access to the material in the medical record.

Physicians should be tactful about what is written in a medical record; grossly inaccurate statements may lead to a suit for libel, even though quality medical care had been provided. Consider the plight of the doctor who writes (as did one doctor who belatedly approached me for advice), "I think this patient is gay." If the patient is bisexual, and the chart is read by somebody other than just the doctor, the physician may be liable for defamation, and may not have a viable defense to the suit. It is far wiser for the physician to merely record relevant facts, leaving the conclusion for the reader to draw. In the example just given, had the doctor written, "patient denies homosexual activity", no grounds for suit would have been presented.

"careless habits of record keeping should be viewed as badges of suspicion"

Even if all of the information in the chart is accurate, the doctor can be held liable for damages if he or she releases medical information about a patient without a patient's consent. Unless the physician is making a report required by statute or administrative regulation, it is wise for the physician to first obtain a consent for the release of medical information. Such consents should be in writing, should be dated, and should state to whom the records are to be sent. They should indicate the nature of the records to be released (i.e. "all medical records regarding my low back injury"). They should, of course, be signed by the patient or the patient's guardian.

Sometimes it is impractical or even impossible for a physician to obtain written consent to release records. In such cases, the doctor should obtain the verbal consent of the patient, since consent in some form must always be obtained prior to release of the information. The doctor should promptly make an appropriate chart note.

For a medical record to be helpful, it must be available. Doctors who send original records--such as X-rays--out of their offices, imperil their ability to successfully defend themselves against future claims for malpractice. Courts will, of course, be sympathetic to the physician who courteously sent a patient's X-rays to another doctor's office, where they became lost. Sympathy is no substitute for evidence, however, and it is evidence which wins cases. Whenever possible, a copy of the record should be sent. If an original must be delivered, a messenger should hand-carry and return it.

Physicians should bear in mind that the appearance of the medical record may be as important as the substantive information it contains. A record which appears to have been altered will be suspect, even if the "alteration"

AGEMENT

was the most innocent correction of a simple spelling error. If a physician obliterates a word, thereby making it impossible to be read, that doctor may be terribly embarrassed before a jury during cross-examination. "Doctor, it is true, is it not, that you deliberately and with the specific intent to do so, rendered that word incapable of being read? You are now telling us that while you can't read the word, and can't recall the word, we should just believe you when you say that it was probably a spelling error you were trying to hide?"

If an error is made while preparing a medical record, a single line should be drawn through the erroneous portion, the record should be dated, initialed, and the reasons for the alteration given. This rule, if followed, will insure protection for the physician, but requires an enormous amount of compulsiveness. A doctor opting not to follow this rule would do well to date, intial and explain any changes made if there is even a remote chance that the change might appear to be for improper reasons. In any event, a physician should NEVER render a prior entry incapable of being read.

If a judge or jury learns that a record has been deliberately altered for improper reasons, the physician will thereupon immediately lose the case. It is as simple as that. Even if the physician had a solid defense on the merits, the case will effectively have ended. The only question left for determination will be, "how much?" This point cannot be over stressed. Consider the following example, taken from a case I had several years ago:

A patient went to a physician's assistant, complaining of chest pain. An ECG was obtained, but no interpretation was recorded. The following day the patient returned to the PA, this time complaining of crushing chest pain and diaphoresis. A second ECG was obtained. The PA did not record an interpretation of this ECG either, but medevac'd the patient to a city where the patient could seek more advanced medical care. The patient saw an internist, who again obtained an ECG. The internist told the patient that the discomfort was of gastric, not cardiac, origin, and sent the patient home. The patient returned the following morning, told the doctor that he was having a "heart attack", and insisted that the doctor send the patient by ambulance to a local hospital. The doctor obtained a fourth ECG, then–only to appease his angry patient–requested an ambulance to transport the patient to the hospital for admission. While awaiting the ambulance, the physician wrote "Normal tracing" on each of the ECG's. He copied the tracings on his office copying machine, and sent the originals along with the patient.

After the patient was admitted,

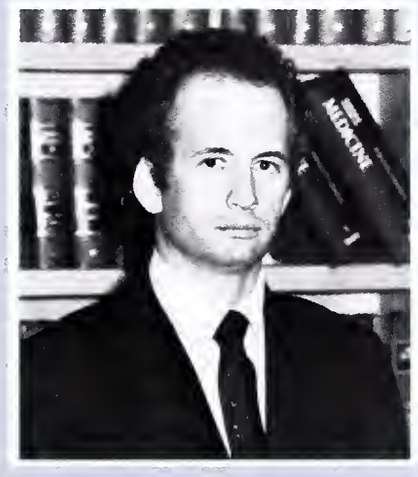

PHOTO BY CHRIS GIBBS

laboratory data indicated that the patient was indeed having an MI. After arriving at the hospital, the physician altered his prior interpretation by attaching the prefix "Ab" before the "Normal" on each of the tracings. The result was that his interpretations began "AbNormal tracing". The doctor then added some additional interpretive remarks.

Because the doctor did not alter the copies he had retained, a discrepancy existed between the hospital and office records. In the normal course of case preparation, I obtained both sets of records. At that point the case lost any significant resemblance to a malpractice case, and appeared to be straightforward Watergate. The physician had cheated. Perhaps his motives were pure; still, he had cheated. Had the case proceeded to trial on a question of negligence, the physician simply could not have won–even if a bevy of cardiologists had been available to testify that his first interpretation had not been unreasonable. The doctor would have had a viable defense had he written, say, "Above interpretation possibly in error, in light of laboratory results. Possible inferior subendocardial MI." Instead, he had cast doubt upon the validity of all of his entries in the record, upon all of his opinions, and upon his personal trustworthiness. Such conduct is a dangerous form of foolishness.

The medical profession has earned a position of high privilege in our society. Our social institutions, such as courts, will not tolerate an abuse of that privilege. When an allegation of professional wrongdoing has been made, the physician will be required to respond with evidence to rebut the allegation. Because the demand may come years after the conduct complained of, only accurate, written information recorded as close to the time of the occurence as was reasonably possible can form the basis for the physician's defense. Courts will expect physicians to produce such evidence. They will scrutinize a doctor's verbal and written evidence for accuracy and trustworthiness. If the evidence shows that the medical care had been reasonable, the doctor will prevail. A good defense lawyer can smooth out a lot of rough spots in the case, but none can erase a stain of dishonesty.

Lee S. Glass, M.D., J.D. — has addressed numerous groups on risk management. Most recently he addressed the International College of Surgeons and the Department of Orthopedics, University of Washington School of Medicine. Glass practices law with Faulkner, Banfield, Doogan & Holmes in Anchorage and Seattle. He is also obtaining postgraduate medical training at the University of Washington.

THE CHANGING NATURE OF TRUTH

Truth, from the time I was first confronted with the term, perhaps at age 5, until the time that I first began to really think, perhaps at about age 50 meant just that, truth. Something that was true today was true yesterday, and would be true tomorrow. Certain truths learned early in life have persisted for me. Counted among these unaltered truths are such dictims as "God is love", two plus two equals four, the game is not over until the last out, the virtue of the Bill of Rights and the inevitability of death and taxes.

Other matters originally considered truths of major importance in my formative years have waned or even disappeared entirely with the changing times. Such evanescent truths include the infallibility of our nation, the eventual triumph of right over evil and the stability of ethics. In my later years, I have been dismayed to learn that ethics are dependent on current laws and regulations, not on man's natural benevolence, that is to say, ethics if not morals *are* legislated.

Having survived a pleasant fundamentalistic childhood and an enjoyable, peaceful, non-drug oriented, pre-World War II high school career, I went off to college, the Navy, pre-med and medical school. In that phase of life, I began to unlearn some truths and to learn some new ones. A quite casual study of history taught that truth in one man's time was not necessarily truth in another's. Ptolemy's truth had given way, not without struggle, to Copernicus. God's one church had been divided into many--all "true". Medical studies revealed some truths which have apparently remained true. For instance, sanitation can prevent disease. A normal chest when thumped resonates. The normal first and second heart sounds are "lub" and "dub". Other medical truths have changed because of scientific or social progress. As examples, the true way to treat pulmonary tuberculosis was with rest, good food, fresh air and pine trees. Peptic ulcer was best treated with Dr. Sippys diet and powders. Rheumatic fever and syphilis were among the most common causes of heart disease. Our true direction as medical school graduates in the 1940's was to relieve suffering, to do the best we could and we were admonished to "do no harm".

Truths in the practice of medicine have certainly changed or at least undergone major metamorphoses. In thirty years or so we have progressed to the point where all physicians are expected to practice to the same high "standards" whether working in a University Medical Center, or in a crossroads village. Diagnosis and treatment have advanced in technology so that the scourges of cancer and heart disease are now expected by the public to be cured. Life expectancy is longer than ever. As a result of the great new truths of medicine, the "health care industry" is now a major portion of the Gross National Product. The hospitals of Alaska are probably only second to the Government in supplying jobs to Alaskans. The medical care costs in dollars has mounted to huge sums annually. The newest truth has now come upon the scene. This truth revolves around the problem that government and other third party payors for medical care no longer feel they can afford to pay for the highest quality care for everyone. That is what they contracted to do in essence, but now there is a dilemma.

The new truth would have it that doctors and hospitals by their very being are the cause of the problem. The doctors and hospitals by being, cause people to want to be cured of their heart attacks, cancer, high blood pressure and anxieties. These people and places make patients want to suffer less through their terminal illnesses. If the doctors, nurses and hospitals were not as good as they are, people would not want, or demand, such care and facilities.

One of the interesting truths about medicine, meaning doctors, nurses and hospitals is that since the beginning, we have all in general been working night and day, year after year to put ourselves out of business. Medical progress in my time has managed to do this in several notable areas i.e. the treatment of tuberculosis has closed countless TB Sanatoria over the U.S. and the world. Vaccines from medical research have eliminated smallpox and all but eliminated polio. Modern medicines have allowed home treatment of mental disorders. We no longer contend with syphilis, at least as a major cause of neuropsychiatric and cardiovascular disease. Now the true problems lie in the aging population with its degenerative diseases and debilitating problems of other chronic illnesses such as emphysema, diabetes, kidney failure and various cancers. People live longer, hopefully better, with expensive morbid medical problems. A truth 25 years ago was that people over 55 years of age were considered too old for renal dialysis. Diabetics with nephropathy were not even considered at any age. We physicians and citizens quickly decided that those requisites were false. Similar criteria have held for other forms of treatment e.g. coronary artery by-pass surgery. Now the

80-year-old having open heart surgery and living happily to tell the tale is a commonplace truth.

In our land of plenty the cornucopia of medical knowledge, progress and practice has truly improved the plight of mankind. The highest quality of care for all has been the goal, the truth. Now cost is the force which is altering the course. Cost is changing the truth or the appearance of truth. Orwells' 1984 is upon us. Systems are being devised to attempt to reduce cost. Some systems employ physicians as "gatekeepers" to somehow keep patients away from "utilizing" medical care. Diagnostically Related Groups (DRG's) have been established to categorize patients according to disease (not according to humanness) all are to cost the same--except the unusual one given the name "outlier". Professional Review Organizations (PRO's) are to review cases about cost, not about quality of care. Very little about quality of care is mentioned in the DRG manual of regulations. Thus it would seem that the national policy is indeed switching from the truth of *quality* to a new truth of *cost*.

It would seem to me that in the face of the impending change in national policy, from one of providing for the best possible care to the ill to one of providing care based on the economies of the situation, that physicians must not become the rationers, but rather must practice with an eye to expense and avoid unnecessary costly procedures. We must continue to provide the highest quality of care to all. I believe this truth must be held inviolate. Hopefully, all physicians will agree.

Richard Witt, M.D.

PROPOSAL FOR A STUDY TO DETERMINE THE FEASIBILITY OF DEVELOPING A CANCER RESEARCH CENTER IN ALASKA

Charles Sternhagen, M.D.

Introduction

Cancer incidence has increased dramatically in Alaska, especially among the native population. Cancer control and prevention is of extreme importance and vital interest since it is the number two death causing disease in Alaska. At the present there is no centralized cancer research, cancer control, or cancer prevention center in Alaska.

An ever-growing number of concerned health research workers, health care administrators, physicians, dentists, nurses, members of the government, and others agree a comprehensive feasibility study for a cancer research center in Alaska is needed.

The purpose of the feasibility study is to develop a comprehensive long range program with all the necessary goals entailed.

Its overriding mission is to perform research in important areas of cancer occurring in Alaska and thereby to improve the health, productivity, longevity, and general welfare of the people of Alaska. By promoting health through cancer research and thereby through cancer control and prevention, productivity in Alaska will increase and the costs of health care and maintenance will decrease while costs of transportation of cancer patients to facilities outside will decrease significantly.

Cancer Incidence Statistics in Alaska

Approximately 600 to 800 new cases are found each year in Alaska. Approximately 200 cases occur in the Fairbanks region, a smaller number of southeast Alaska, and the remaining bulk in the Anchorage region. According to American Cancer Society statistics, approximately 50,000 to 100,000 Alaskans will contract and/or die of cancer if nothing is done to intervene. There is a definite need to develop computerized capability to compare Alaska cancer statistics to the rest of the nation. This must be done to accurately establish trends which will indicate those specific cancers requiring greater research efforts and more meticulous preventive, educational, screening, and therapeutic measures. For these reasons a tremendous need exists for re-instituting the state-side Alaska tumor registry in order to obtain data in appropriate detail and thoroughness as is routinely done used in state cancer registries throughout the United States. Those statistics which are available and have been published are definitely sufficient to prove unique differences and increases in cancer incidence widespread in Alaska among the various subgroups such as Alaska Natives (Eskimos and Aleuts), and non-natives. The following are data for Alaskans: (1,2,3,4,5,6,7,8)

Cancer of the lung is estimated at twice the national average in non-natives.

Cancer of the lung, breast, and colorectal region are increasing in natives and approaching the levels present in non-natives.

Cancer of the kidney among natives is approximately three times the national average.

Cancer of the nasopharynx among Eskimos and Aleuts is about fifteen times the national average.

Cancer of the cervix in Alaska natives is approximately twice the national average.

Cancer of the esophagus in female Eskimos and Aleuts is about five times the national average.

Cancer of the liver and biliary tract among Alaska natives is about four times the national average.

Anaplastic parotid gland carcinoma or malignant lymphoepithelioma is a form of cancer seen only in Eskimos.

Cancer of the salivary glands among Alaska natives is about two times the national average.

Cancer of the thyroid gland in female Alaska natives is also considered to be possibly higher than the national average.

Need for a Cancer Research Center in Alaska

More complete data is needed each year to more accurately determine the trends of cancer incidence although the available data are sufficient to document rather significant increases in Alaska. Trend analysis is necessary to establish interdictory comprehensive anti-cancer strategy on a research, planning, and therapeutic basis for all of Alaska. This may be the only hope we have of preventing further devastating increases in cancer incidence and death.

Thus, we have shown that: a) there exists an extraordinarily unique set of cancer incidence differences and increases now known among Alaska's population, b) computerized cancer registry is a vital state epidemiologic need, c) and there is a definite need for establishing a cancer research center in Alaska to help Alaska natives and non-natives.

Cost Effectiveness of a Cancer Research Center in Alaska

Besides establishing the need, the feasibility study must pursue the second major consideration; cost effectiveness of a cancer research center in Alaska. Because of the geographic setting, tremendous amounts of money are spent transporting patients to facilities outside Alaska, most of which is now unnecessary since state-of-the-art facilities are available in Alaska. The cost of transportation, housing, and food outside the state is frequently far more expensive than the cost of treatment itself. The dislocation of families to crowded cities in the lower 48 for cancer treatment is a tremendous cultural shock and emotionally devastating experience for which no actual cost can be established. Unfortunately there is an enormous amount of work time lost when patients go outside for cancer research protocol treatment. The savings might be of considerable proportions and the prevention of catastrophic costs and cultural shock would be of great significance to patients, families, and employers. The saving in transportation costs and reduction in time away from home and work need to be estimated accurately in the feasibility study.

The continuation of certain cancer research studies which are now under way on both the clinical as well as the cellular and subcellular level in Alaska holds an unusually high potential promise for finding cancer research breakthroughs and innovations. This is true because of the relatively high number of unusual differences in the incidences of cancer occurring in Alaska compared to the lower 48 states. New anti-cancer methods have a relatively high statistical chance of being developed under the auspices of an Alaskan cancer research center. The center would be devoted to an overall strategy of attacking and decreasing the cancer incidence in Alaska while simultaneously improving cure rates.

A cancer research center also has a great potential of cost saving by serving as a centralized authority or institution for ensuring the continuation of important and worthwhile Alaskan cancer research programs of several types. In the past, some ongoing cancer research projects in Alaska have been damaged greatly when they were unfunded and discontinued before total completion. To discontinue a worthwhile project which has an excellent chance of making breakthroughs is a wasteful policy.

Without a cancer research center, there is no centalized united organizational group which can spearhead, support, and thoroughly demonstrate the continuing need for outstanding Alaska cancer research programs.

Another cost effective measure would be to bring outstanding cancer researchers from outside who have existing grants to study nutrition, effects of geographical location, environmental changes, sunlight variations, and many other important relevant carcinogenic factors. Basic facilities are needed in order to attract and retain experienced investigators who cannot be recruited at the present time.

Since the population needed for the ongoing studies and the environment are present in Alaska, it is only logical that Alaska is the best place to plan and pursue the research.

Enhancing and Supplementing the Role of Private Physicians and Dentists

The cancer research center should be modeled to enhance the strong role of private physicians and dentists in handling cancer patients. There must be no conflict of interest with the private practice of medicine and dentistry. A cancer research center should centralize, distribute and facilitate the use of the latest therapeutic methods as well as research protocols, making them available for practitioners throughout the state.

Cost effectiveness and unique need are absolutely critical and essential to the successful pursuit and development of a cancer research center. The feasibility study is therefore responsible for developing fully those supporting details related to the need and cost effectiveness of an Alaskan cancer research center while demonstating clearly that such a center will facilitate patient care in Alaska, enhancing the role of private practitioners.

Specific Areas to be Addressed by the Feasibility Study

The feasibility study should include a review and assessment of the following areas:

1. Epidemiology needs assessment
   a. Compare cancer, health, and epidemiological data (to the extent available) of the Alaska populace with the rest of the United States.
   b. Document unique differences (e.g., excessive rate of nasopharyngeal cancer and liver cancer among Alaskans) which might indicate specific research programs for the Alaska region.
   c. Review the need for re-instituting the state-wide cancer registry to provide more accurate and timely data on cancer diagnosis, treatment, and followup on Alaskan cancer patients.
2. Develop an inventory of ongoing cancer-related research activities in the state (to include history, funding level, sponsor, etc.).
3. Identify areas of interest and potential for future cancer and related health research as well as educational activities.
   a. Epidemiological research (with special attention focused on cancer and health needs of the native population) including:

1). Pediatric cancer and related maternal and child health problems.
2). Nutrition and diet.
3). Genetic damage due to social, environmental, climate, and other factors unique to Alaska.
b. Carcinogens (e.g., industrial)
c. Cancer control and prevention.
d. Cancer education and research dissemination.
e. Clinical research.
1). Protocol studies and clinical trials
f. Basic Research.
1). Cellular and subcellular level.
4. Administrative considerations
a. Type of organization.
1). University-based center.
2). Free-standing state-sponsored institution.
3). Private foundation.
4). Coordinated multi-institutional coalition.
5). other.
b. Organization infrastructure and staffing
1). Administration.
2). Research and educational components.
c. Fiscal considerations.
1). Initial capitalization and start-up costs.
2). Continuing core support requirements.
3). Funding source identification (e.g., state taxation on cigarettes and/or alcohol, endowments, grants and contracts, contributions and donations).
4). Accountability.
d. Scientific review and evaluation.
1). Proposals for new projects.
2). Peer review of ongoing projects.
3). Dissemination of research findings and results.
5. Report on findings of feasibility study.
a. Identification of goals and objectives.
1). Targeted time schedules for accomplishment (initial).
b. Review of advantages and disadvantages.
c. Exploration of alternatives.
d. Recommendations.

Conduct of Study and Cost

The feasibility study should be performed by well-qualified professional consultants experienced in the conduct of such studies, and having the capability of understanding and communicating the special needs and characteristics of Alaska societies, organizations, and cultures.

The time frame for the conduct of the feasibility study should be within six months to one year.

The estimated cost of the study would range between $25,000 and $35,000.

Summary

This proposal for a study to determine the feasibility of developing a cancer research center in Alaska presents the fact that there has been a dramatic increase of cancer in Alaska, particularly among the Alaska native population over the past several decades. It has become readily apparent that there is a high interest among concerned Alaskans that nutrition and diet, environmental carcinogens, genetic, and many other factors unique to Alaska need to be studied by a cancer research center team. This research team will have the opportunity then to develop more advances which may lead to major breakthroughs in the overall prevention, control, and cure of cancer in Alaska and elsewhere. Such a research center can thereby become a major source of improvement of the health and productivity as well as the general welfare and longevity of all Alaskans. Without such a team effort, the outlook is dismal. If the development of a cancer research center in Alaska is determined to be feasible, then Alaska will be in a strong position to take assertive action in time to either improve prevention of cancer or to help the majority of Alaskans who in the future will require therapy for these life-threatening diseases.

This appears to be the best time to proceed with the feasibility of developing a cancer research center in Alaska, and since time is of the essence, it is strongly recommended that the proposal be brought to the attention of the legislature at the earliest possible time.

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THE PRESIDENT'S PAGE

Blue Cross of Washington and Alaska has developed two cost containment programs that will be phased into most of the health care benefit plans during 1984. Both programs; second surgical opinion program (SSOP) and outpatient surgery program (OSP) are designed to help control the increasing cost of health care benefits while still providing a high level of quality care and to encourage the subscribers to take a more active role in their health care decisions. Blue Cross solicits cooperation in the implementation of both programs.

The programs are outlined as follows:

1. Outpatient Surgery Program (OSP)

For groups that have the outpatient surgery program benefit, certain non-emergent and non-urgent elective surgical procedures must be performed in an outpatient setting or must be pre-certified for inpatient surgery, in order to receive full contract benefits.

When surgery is recommended on an inpatient basis for these OSP procedures, it is necessary for the physician and subscriber to jointly initiate and submit a Request for Hospital Admission ten days prior to surgery to Blue Cross for medical review. The determination will also be sent to the physician's office. Copies of the Request for Hospital Admission are available through the subscriber's personnel office.

An admission which involves two surgical procedures, one of which is not on the list and is a more complex procedure, does not require certification.

If inpatient surgery is not pre-certified by Blue Cross, there are two options available to the patient: a) surgery is performed on an outpatient basis, in which case full contract benefits for hospital and professional services are provided; or b) surgery is performed on an inpatient basis in which case contract benefits are provided except no benefits are provided for the primary surgeon's fee. If inpatient surgery is not pre-certified, the subscriber will be financially responsible for the surgeon's service.

Patient's utilizing facilities in which outpatient surgery capabilities are not available will be exempted from this process, and full contract benefits will be applied.

2. Second Surgical Opinion Program (SSOP)

All subscribers with this benefit must obtain a second opinion for all named elective surgical procedures in order to receive program benefits for the surgeon's service.

If the subscriber has surgery without obtaining a second opinion, the subscriber will be responsible for the surgeon's service.

Benefits for a second opinion consultation from a licensed physician and surgeon, and supporting laboratory and x-ray procedures will be paid at the usual, customary, and reasonable charges.

Blue Cross also provides contract benefits for an optional third opinion.

The second opinion consulting physician should not perform the surgery.

Outpatient Surgery Program List

(It is necessary to complete a Request for Hospital Admission form if these procedures are performed on an inpatient basis.)

DIAGNOSTIC INSTRUMENT EXAMINATIONS (WITH SCOPES)	
Arthroscopy knee	27376
Bronchoscopy diagnostic	31620
Esophagoscopy and biopsy	43202
Upper gastrointestinal endoscopy diagnostic	43235
Dilation esophagus, initial session	43450
Colonoscopy, diagnostic	45360
Colonoscopy with biopsy	45365
Laparoscopy of female organs	58980
BIOPSY/EXCISION OF LESIONS	
Excision of benign lesion, scalp, neck, hands, feet, genitalia	11422, 11441
Excision of cyst, benign tumor, one or more lesions	19120
Excision of ganglion wrist, primary	25111
Incision - fasciotomy, palmar, closed	26040
Excision of lesion on tendon	26160
Excision or biopsy lymph node	38500
FOOT SURGERY	
Excision of nail	11750
Excision metatarsophalangeal joint	28052
Excision of neuroma, single	28080
Excision - interphalangeal joint	28160
GENITO URINARY PROCEDURES MALE/FEMALE	
Vasectomy, unilateral or bilateral	55250
Biopsy of prostate	55700
Biopsy of cervix with or without dilation and curettage	57520
Dilation and curettage, diagnostic and therapeutic	58120
EYE, EAR AND NOSE PROCEDURES	
Intranasal lesion excisions	30117

Cornea - excision of pterygium	65420
Incision of ear drum	69420

Blue Cross Second Surgical Opinion Program

It is necessary to obtain a second surgical opinion for the following procedures:

Hysterectomy	58150, 58180, 58260 thru 58270, 58275, 58280
Surgery on the knee	27330 thru 27379
Surgery on the foot	28080 thru 28299
Gallbladder surgery	47600 thru 47620
Tonsils and adenoids	42820 thru 42836
Surgery on the spine	22555 thru 22735 62295 thru 63076
Coronary bypass	33510 thru 33528
Surgery on the nose	30140 thru 30520
Surgery of the breast	19120 thru 19272

(The foregoing manifesto prompted the following response.)

The Alaska Medical Association has several concerns involving what appears to be an arbitrary and capricious decision by Blue Cross of Washington and Alaska.

The second surgical opinion program may be extremely difficult to implement in Alaska where several of the procedures which require second opinions may not be done by another physician or surgeon within that community. This would necessitate patients to obtain second opinions from a city other than the one in which they live. There is no mention that Blue Cross will pay the airfare and hotel expenses for patients who must go from Cordova to Anchorage or Juneau for a second opinion, or from Fairbanks to Anchorage as may be required.

The Medical Association has serious doubts whether second surgical opinions have proven to be cost effective. There are several good studies showing there is indeed some question whether or not obtaining a second opinion has decreased surgery and decreased the medical expenses.

We are afraid that the action by Blue Cross will simply add an additional cost for medical care unto the Alaskan consumer.

Regarding the outpatient surgery program, stating that Blue Cross will only pay for certain procedures done as an outpatient is particularly odious because it removes the medical judgement from physician to Blue Cross as to whether a patient should be done as an inpatient or outpatient. The physician is the best vehicle able to make a rational decision as to risks involved with each individual surgery. Granted most of these procedures are done as outpatient by physicians in Alaska, the option of inpatient procedures if the risks warrant such, should be at the discretion of the physician. Blue Cross has made an allowance for this by accepting from physician and subscriber a request for hospital admission 10 days prior to surgery. The problem arises in a sick individual who may require one of the diagnostic procedures immediately. In that case, it would be detrimental for the patient and physician to be required to submit a form for preauthorization and delay the procedure for 10 days. It is those unstable patients requiring hospitalization who are most adversely affected by a 10 day delay pending authorization from Blue Cross.

Once again, it is a problem of intrusion of the insurance company into the field of medicine which we feel goes beyond concern of cost containment and interferes directly with the physician's judgement. I think you will find Alaskan physicians have not abused their admitting privileges, and as consumers they are also cost conscious.

We are totally opposed to implementation of the arbitrary programs without public commentary and input from the physicians of Alaska as well as the consumers of our state who carry the burden of paying premiums. We are concerned that Blue Cross is exhibiting more interest in their profit margins than with the quality of care delivered to Alaskans.

Richard G. Parry, M.D., F.A.C.S.
President, ASMA

TENTATIVE CONVENTION SCHEDULE

VALDEZ, JUNE 8-12, 1984
ALASKA STATE MEDICAL ASSOCIATION

FRIDAY, June 8, 1984

12:00 - 5:00	Registration, Convention Center (room)
1:00 - 4:00	Council Meeting
5:00 - 7:00	Cocktail Hour & Dinner
7:00 - 9:00	Scientific Session - The Alyeska Pipeline - George Nelson, Vice President of Alyeska

SATURDAY, June 9, 1984

8:00 - 9:30	Business Meeting, Convention Center
9:30 - 12:00	Scientific Session - Endocrinology Update - Dr. Bonar, Dr. Nolan, Dr. Bravo (Cleveland Clinic)
12:00 - 1:30	Lunch
1:30 - 5:30	Alyeska Pipeline Tour - George Nelson
5:30 - 7:00	OPEN
7:00 - 9:00	Business Meeting

SUNDAY, June 10, 1984

8:00 - 9:30	Business Session, Convention Center
9:30 - 12:00	Scientific Session - Cardiology Update - Dr. Rhyneer
12:00 - 1:30	LUNCH Open
1:30 - 3:00	Scientific Session - Cardiology Update - Dr. Rhyneer, Dr. David Bristow, Prof. Cardiology, Univ. of Oregon
3:15 - 5:00	Business Meeting
6:30 - 7:30	Cocktail Hour, Respective places for dinner
7:30 -	College of Surgeons, AAFP

MONDAY, June 11, 1984

8:00 - 9:30	Business Session, Convention Center
9:30 - 12:00	Scientific Session - Neurology & Neurosurgery - Dr. Emery, Dr. Kralik
12:00 - 1:30	ALPAC Luncheon/Annual Meeting
1:30 - 3:00	Scientific Session - Ophthalmology Update, Dr. Richardson
3:15 - 5:00	Business Meeting
6:00 - 7:00	Cocktail Hour
8:00 -	**President's Banquet** Presentation & Exhibit Contest Drawing

TUESDAY, June 12, 1984

9:00 - 11:00	Council Meeting, Convention Center
10:00 - 11:00	Tours (possible morning cruise)

Departures

Help Save a Child's Life

The PECABU poster baby shown here is Jason Hanley, with his mother Gwen Hanley. They are the son and wife of John Hanley, M.D., Emergency Room Medicine, Providence Hospital.

Your tax deductible donation is needed!!!!!

Each $25 contribution will add another car seat to the PECABU Loaner Program.

Over 400 car seats have been loaned out in just 3 months. Help support the Auxiliary in their community service endeavors and save a life!

Send your contribution to:

PECABU Loaner Program
Anchorage Medical Society Auxiliary
2047 Duke Drive
Anchorage, Alaska 99504

Enclosed please find _____ for a tax deductible contribution to the PECABU Car Safety Seat Program.
I wish the sticker on the car seats to read: This car seat donated in the interest of child passenger safety by:

_____.

THANK YOU FOR YOUR SUPPORT!

TRADITIONAL SURGERY OF THE ALASKA NATIVES

Robert Fortuine, M.D.

Introduction

Surgery is an ancient art that began as a response to bodily injury, probably the earliest surgical techniques being those of splinting fractures, controlling bleeding by pressure or removing a foreign body (1). From there it was a reasonable step to drain a swollen abscess or by extension, to relieve a throbbing headache or other internal pain by opening a vein. A later stage involved the treatment of unseen internal disease by surgical methods.

The primitive origins of surgery clearly demonstrate the art was not limited to cutting or piercing, but it encompasssed a variety of manual skills. Even in our day the care of wounds and fractures lie in the domain of the surgeon. For the purpose of this paper, surgery is defined even more broadly to include massage and obstetrical manipulations, thus harking back to the original etymology of the word-"work performed by the hand."

In traditional cultures surgery was usually part of the healing complex known as empirico-rational medicine, which also includes methods of treatment with plant or animal extracts. This type of healing is contrasted to the medicine of the shaman or magico-religious medicine. As the name suggests it deals with disease causation and cure by magic or spiritual methods such as dancing, chanting, hypnosis, or the use of amulets. The practitioners of these two traditions could be the same individual, but more commonly they were representatives of separate parallel systems, each specializing in his own kinds of illness.

This paper briefly describes the surgical practice of the Alaska Native peoples based on an extensive review of archeological finds, early narrative and eyewitness accounts, and ethnohistoric studies. Because of severe space limitations only a few salient aspects of the subject will be considered here (2).

Surgical intervention in the Alaskan cultures was prompted by one of four basic situations. The first was the nearly universal use of body decorations or ornaments most of which had a ritual meaning. Few persons escaped the surgeon's instruments at some period in their life to prepare them for labrets, nose and ear decorations, or tattoos. Another occasion for surgery was the treatment of injury which often resulted from the daily activities of life, violence, or simple environmental hazards such as cold. A third situation calling for surgical intervention was the occurrence of pain or swelling from such disorders as an abscess or an inflamed joint. A fourth was more difficult to define. As surgical methods began to improve, the practitioners undertook treatment of various internal ailments such as pain, headache, difficulty breathing, urinary disorders or even blindness.

Surgery was usually performed by an individual of the community who had developed special skills in the area through a kind of apprenticeship training, sometimes from father to son. The shaman, a figure familiar to us from most Alaskan cultures, infrequently employed surgical methods himself since his stock in trade was chanting, dancing, the use of amulets, and other magico-religious techniques. A third type of individual sometimes performing surgery was a relative who might be called upon to assist in the procedures associated with ritual ornamentation or childbirth.

The instruments these individuals developed and used for surgery in Alaska may be classified as knives, lancets, chisels, awls, and needles. They were made of many types of local materials including flint, obsidian, jade, bone, ivory and shell. Iron and other metals were assimilated for use as

1615 Stanton Avenue, Anchorage, Alaska 99504. This paper was presented in somewhat different form at the Alaska State Medical Association Convention at Cordova, Alaska, May 28, 1983. A considerably expanded version, with full documentation, will appear elsewhere.

soon as they became available through trade channels. Some instruments were apparently designed expressly for the purpose of surgery, whereas others were adapted from existing native tools.

Traditional methods of surgery

The native people of Alaska developed many different techniques of surgery, some of them practical, some ingenious and some accompanied by considerable risk. Most procedures had a rational foundation and were developed in response to a visible disorder such as a laceration, fracture, or boil. The surgeon of today might consider a number of others meddlesome or even hazardous, examples being surgery for ornamentation, the various methods or piercing, or bleeding.

THE ALEUTS

The Aleuts had one of the richest surgical traditions of the Alaskan cultures. Its practitioners were not shaman, but rather men whose special skills were passed through families (3). Their techniques were strictly based on extensive knowledge of anatomy, derived from dissection of human remains and practice of preparing mummies (4). The butchering of sea mammals and other animals also contributed to anatomical knowledge as it did in other Alaskan cultures.

Aleuts are known to have washed wounds and sutured them using a bone needle and a sinew thread. Wounds might also be treated by fastening and application of certain roots. A piece of gut or the skin of a mouse might be used as an external dressing. The barbs were surgically removed in severe injuries caused by animal traps (3).

A surgical technique of great importance to the Aleuts was known as "piercing" or "lancing", in which the patient was pierced with a sharp instrument over the presumed site of illness in order to let out the "bad air". This method was used for many kinds of disorders including consumption (3). It was carried out by lifting a pinch of skin and piercing either straight in or in one one side and out the other (7).

"Bleeding" involved a cut through the skin (and perhaps a vein) for the purpose of removing a quantity of blood. The treatment was used widely in the Aleutians for such conditions as headache, other internal pains, or general debility and weakness (3). The surgeon usually opened the antecubital or long saphenous veins, although sometimes it might be a vein beneath the tongue. The prognosis depended on the color of the blood and whether it flowed freely (9).

A third type of treatment widely employed in the Aleutians was massage or manipulation practiced by old women for various internal disorders and for pregnancy and childbirth (3).

The Aleuts also performed several types of ritual surgery. They cut holes in the lower lip of both sexes for the insertion of labrets, and pierced the nasal septum and ear lobes for other ornaments of various kinds. The women especially were tattooed on the face, arms and trunk by means of a needle and a sooty thread (3). The Aleuts also dismembered the bodies of their slain enemies in order to dissipate the power to seek revenge (7).

THE KONIAGS

Koniags, the original inhabitants of Kodiak Island, must take the palm as the most sophisticated surgeons among the natives of Alaska. They performed most of the types of operations done by the Aleuts, such as bleeding (by women), piercing, and suturing. They developed a number of other procedures requiring ingenuity, skill and even courage.

The drainage of large abscesses, which seemed to be particularly common among the Koniags, was accompanied by thrusting a long stone knife deep into the tissue then twisting it about, presumably to break up the loculations of pus (13).

A special form of piercing in certain eye diseases involved thrusting a long spicule of bear bone through the skin on both sides of the head just above the lateral canthus. The sharp bone extended across the orbit until it was embedded in the bridge of the nose. The patient was given a fir cone to bite on as "anesthesia" (14).

Another eye operation attested by two witnesses was said to be for "cataract", but probably in fact was for pterygium. A louse was attached to a hair and lowered gently to the surface of the eye. When it had gripped the film on the eye it was jerked by the hair, thus removing the opacity (13,16).

The Koniags also successfully performed lithotomy for stone of the distal urethra by cutting at the tip of the penis with an ordinary knife. Such an operation was only performed reluctantly and after all else had failed (14).

The types of procedures used in ornamentation were similar to those of the Aleut. Labret holes and piercing of the nasal septum were performed in early infancy whereas tattooing was carried out later in life.

THE ESKIMOS OF SOUTHWESTERN ALASKA

The Yupik Eskimos of Bristol Bay and the Yukon-Kuskokwim Delta have a less highly developed surgical tradition, possibly because in Eskimo culture areas the shamans assumed a relatively greater importance in healing.

Bleeding was used for many types of illness, especially headache and "congestion", but the Yupik were cautious in this regard because they feared the soul might flow out with the blood. The skin over the affected area was cut with a stone knife and then the edges were held together to control the flow. A favorite site for bleeding was the scalp.

Piercing was a widespread treatment for aching and swollen joints. The surgeon pinched up the skin over the affected joint and pierced through it with a sharp stone knife or needle. The joint cavity itself was not entered. For snow blindness, the upper lid was everted and a small incision made on the tarsal plate.

Yupik Eskimos also treated fractures of an extremity by trying to re-align the bones and then excasing the limb in a piece of tough hardened skin to serve as a splint. Piercing was sometimes used for simple sprains (18).

THE ESKIMOS OF NORTHERN ALASKA

The Inupiat Eskimos used many of the same surgical techniques (especially bleeding) as their neighbors to the south. Because of the prominence of the shaman, surgery did not play a major part in their system of medicine. The shaman himself sometimes performed surgery as did relatives of the patient and other members of the community (19,20).

Northern practitioners splinted with rolled caribou hide or with strips of baleen, treated wounds with blubber, seal oil, spruce gum, or covered them with the inner membranes of a caribou hide (20,21). Urine was used for hemostasis (19).

A native surgical skill known to us chiefly from this area is amputation, which was often required as a consequence of frostbite and gangrene. Several narratives mention individuals whose extremities had been amputated by a relative after severe frostbite (21). The surgeon waited until dry gangrene had supervened, then cut away the necrotic material with a knife. Sometimes the stump flaps were sutured with sinew (25).

The technique of massage was highly developed among the Inupiat, as with the Aleuts. The method was used chiefly by women for a variety of internal disorders including problems of pregnancy, liver disease and constipation. It was also of value for pain relief in sprains and dislocations (26).

THE INDIANS OF SOUTHEASTERN ALASKA

With the exception of some fairly elaborate ritual operations, the Indians of southeastern Alaska seemed to practice little surgery. Perhaps the shaman who was very active in treatment of disease in the area was pre-eminent among the healing fraternity.

Nearly every early visitor to southeastern Alaska commented on the impressive labrets of the lower lip worn by Tlingit women. One observer described them as "as kind of wooden bowl without handles" which because of their weight caused the lower lip to hang in a nearly horizontal position (27,28). A large slit had to be made through the lip to accommodate the bit of finery. The incision in some groups was made in infancy and in others around the time of puberty. Following the cut the surgeon inserted a copper wire the size of a knitting needle to retard healing by its corrosive action. As the orifice became larger successively bigger wooden pegs were inserted until an adult-sized labret could be accommodated (29).

The Tlingets and Haidas pierced the nasal septum and ear lobes of their male children at a naming ceremony (30).

ATHAPASKAN INDIANS

The various Athapaskan bands in Alaska used many of the techniques of surgery found in other cultural groups, notably bleeding for headache or snow blindness and piercing for swollen joints or internal pains. Some groups incised an abscess while others applied heat and suction. Ornamentation was limited to piercing of the nasal septum and ear lobes. Tattoos were limited to a few lines on the face of women (31).

The Athapaskans had an interesting variation on the use of splints for fractures. They initially encased a fracture in a tubular piece of bark then later replaced it with a binding of cloth impregnated with pitch. When the skin underneath began to itch, healing was adjudge complete (32).

Conclusions

Most of the surgical techniques of the Alaska natives have parallels among traditional cultures elsewhere in the world. A few procedures described in this paper are probably purely local responses to an injury or other disorder encountered at a certain time and place. Not only are the operations unique but local materials used as instruments such as jade, bear bones, or caribou skin, are also unique adaptations.

Even if the procedures were performed with skill and ingenuity, did they help the patient? In many cases the answer must be a rousing affirmative. A sutured wound, a splinted fracture or a drained abscess all helped the patient to recover more rapidly from his disability and pain. Even the more questionable practices of bleeding and piercing may have relieved a throbbing headache or a painful joint. Certainly a psychological lift was possible from the patient knowing "bad blood" or "bad air" had been let out.

Could these operations have caused serious harm? A vital structure such as a nerve or artery could easily have been damaged or infection could have been introduced. Therapeutic bleeding, say from the scalp, could have been difficult to control in some patients.

Despite the potential hazards the Alaska native surgeons of earlier times probably accomplished much good for their patients; if they had not, the surgical art could not have flourished in the north as it apparently did.

Acknowledgements: My special thanks to my son Alex Fortuine and my daughter Willa Fortuine for their invaluable assistance in the preparation of this paper.

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J-4044 January 1984

DONALD ROE ROONEY, M.D., F.A.C.R.

1928 - 1983

Juneau radiologist, Don Rooney, was gunned down last November 4th during an evening beach stroll with his wife in Acapulco. He was 55 and in mid-career. He left his wife, Rosemary, and four children: Julianne, Don, Jr, Rose Ellen and Peter.

I think I first encountered Rooney on his appearance as a fledgling councillor to the ASMA. At the time we were besieged by AkPIRG and other bothers such as the ethics of charging for PA services. Rooney struck me than as having a bit too many pat answers to our problems considering his relative innocence of the heady experience of heavy medical politics. I should have known better; he had been a very prolific and busy fellow.

He was born in Englewood, N.J. on June 14, 1928; 27 years later he emerged from Emory School of Medicine, AOA, with his MD. After a stint in the U.S. Navy he completed a radiology residency at Emory and settled into 20 years of private practice in Marietta, Georgia. During this time academia also beckoned and he rose to Clinical Assistant Professor on the Emory faculty.

His energy was prodigious. While raising a family of four, teaching and practicing, he authored some 16 scientific papers and published 3 books, 2 on the history of radiology. He participated actively in a host of professional and civic organizations with leadership positions in most.

He served on the Board of Chancellors of the American College of Radiology; as Councillor to the ASIM, to the Radiological Society of North America, and to the American College of Radiology; as delegate to the International Congress of Radiology; and as Secretary of the Alaska State Medical Board.

As an avid outdoorsman his fascination with the works of John Muir inspired him to visit and travel several times in Alaska before settling in Juneau in 1978. He had been active in scouting,, the Audubon Society and the Sierra Club, and at the time of his death was compiling a collection of Alaskan photographs to be published with annotations from the works of Muir.

We will miss this man. The Acapulco thing was a pointless, mindless waste.

Winthrop Fish, M.D., F.A.C.P.

POST GRADUATE COURSES

March 22-24	Perinatal Symposium *
April 13, 14	Treatment in Diabetes Mellitus *
May 2-5	The seventeenth annual meeting of the American Association of Suicidology will be held at the Captain Cook Hotel. Suicidology is a broad science affecting every medical speciality and all mental health professions. Category I Credits for physicians are being arranged. Alaskan physicians are encouraged to participate as presenters and attendees. For additional information please contact Richard R. Parlour. M.D., 2900 Providence Dr., Anchorage 99508 (907) 561-1633.
August 9, 10	OB/GYN Summer Update *
November 9, 10	Rational Use of Diagnostic Imaging Procedures *
December 7, 8	Computing for Physicians *

* For further information contact Sherrie M. Siverson, Center for Educational Development, Providence Hospital, 3200 Providence Drive, Pouch 6604, Anchorage, Alaska 99502, (907) 564-9611.

INTERNATIONAL SYMPOSIUM ON CIRCUMPOLAR HEALTH

"Arctic Environment—Man and the Future"

May 13-18, 1984, at the Sheraton Anchorage Hotel Anchorage, Alaska

Second Announcement

Keynote Speaker

The Honorable Margaret Heckler, Secretary, U.S. Department of Health and Human Services. (invited)

Featured Scientific Speaker

Baruch Blumberg, M.D., Ph.D., Associate Clinical Director, Institute for Cancer Research, Philadelphia. 1976 Recipient of Nobel Prize in Medicine for discovery of the Australian Antigen, later shown to be a surface antigen of the virus causing Hepatitis B, now an endemic disease in western Alaska.

Core Sessions

The scientific and humanistic sessions will be scheduled so that no more than two sessions will run concurrently. The sessions and their chairs are listed below. Principal speakers who have accepted invitations are noted.

COLD INJURY, PHYSIOLOGY AND ADAPTATIONS
Williams Mills, M.D., Chair
Jacques LeBlanc, Ph.D., University of Laval, Quebec

INFECTIOUS DISEASES
Brian McMahon, M.D., Chair
Peter Skinhøj, M.D., Rigshopitalet, Copenhagen, Denmark

CANCER AND OTHER CHRONIC DISEASES
Anne Lanier, M.D., Chair
C. S. Muir, M.D., International Agency for Research on Cancer, World Health Organization, Lyton, France

GENETICS, ANTHROPOLOGY AND DEMOGRAPHY
Edward M. Scott, Ph.D., Chair
Gudrin Petursdottir, Ph.D., University of Reykjavik, Iceland

NUTRITION
Elizabeth Nobmann, R.D., M.P.H., Chair

ENVIRONMENTAL AND OCCUPATIONAL HEALTH PLANNING AND ENGINEERING
William Ryan, Ph.D., Chair
Daniel Smith, Ph.D., P.E., University of Edmonton, Alberta, Canada

SOCIAL ENVIRONMENT, MENTAL HEALTH, ALCOHOL, AND D
ABUSE
William Richards, M.D., Chair

MATERNAL AND CHILD HEALTH
George Brenneman, M.D., Chair
Holger L. Hultin, M.D., M.P.H., University of Helsinki, Finlan

DENTAL HEALTH
H. Douglas Smole, D.D.S., Chair

HEALTH CARE DELIVERY AND INFORMATION SYSTEMS
Peggy McMahon, R.N., B.S., Co-Chair
Cynthia Schraer, M.D., Co-Chair
David Morley, M.D., Institute of Child Health, London, England

Special Sessions

THE REPORT OF THE INTERNATIONAL BIOMEDICAL EXPEDITION TO THE ANTARCTIC (IBEA). After four years of planning and organization by the Scientific Committee for Antarctic Research (SCAR) Working Group on Human Biology and Medicine, the IBEA was successfully carried out in 1980-81. One day of the Symposium will be devoted to a presentation of the results of that Expedition; this is the first time such a presentation has been made to such a group. To view man as a whole, the IBEA was multidisciplinary, with projects in physiology, biochemistry, microbiology, immunology, psychology, sleep and epidemiology. A 100-minute television documentary will be shown.

THE ANNUAL MEETING AND AWARDS BANQUET of the Alaska Public Health Association will be held in conjunction with the Symposium. Guest speakers will be

William H. McBeath, M.D., M.Ph., Executive Director,
American Public Health Association
Susan F. Addiss, M.Ph., M.Ur.S., President,
American Public Health Association
Victor W. Sidel, M.D., President-Elect,
American Public Health Association

PRESENTATION OF FINAL DRAFT of the "Arctic Health Science Policy." In June 1982, the American Public Health Association established a task force of arctic residents and experienced scientists to develop a National Arctic Health Science Policy. Supported by the Alaska Council on Science and Technology, Alaska Public Health Association, Alaska State Medical Association, and various other local, state, federal, and international health organizations, numerous circumpolar residents and scientists have contributed to the development of this document. The special sessions will present the final draft of the 'Arctic Health Science Policy" for critical review and will solicit comments and suggestions from participants. Specific arctic health issues will be addressed in depth, concentrating on five areas: behavorial aspects of health, medical issues in the arctic, environmental aspects of health, health policy research opportunities in the arctic, and resource needs for a national health science presence.

WORLD HEALTH ORGANIZATION (WHO) will sponsor pre-Symposium workshops on cancer and on the selection of personnel for service in arctic environments (by invitation).

MEDICAL AND HEALTH ASPECTS OF INDUSTRIAL DEVELOPMENT IN ARCTC AND COLD REGIONS.
Robert Rigg, M.D., Organizer
Louis Rey, Ph.D., Comite Arctique, Monaco, Chair and Guest Speaker

SEARCHING FOR A BETTER LIFE.
Carl Hidd, B.S., and ***Theodore Mala,*** M.D., M.P.H., Co-Chairs.
The way in which an old American Native-oriented culture deals with a very new, Western European culture is a critical area of inquiry for those who wish to ensure successful delivery of health services. Discussion is needed on the use of "new" ways, the attempt to make them acceptable to the "old" frame of mind, and the best way to fight "new" plagues (i.e., tuberculosis, venereal disease, alcohol) in an "old" and very tolerant culture.

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Admission to Sessions only	$ 50	$ 60

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☐ Please send me information on student housing.

PHYSICIAN SELF ASSESSMENT

Choose the most appropriate answer.

1. Pseudomembranous enterocolitis
   a. is caused primarily by clindamycin (Cleocin).
   b. has a 95 to 100% response rate to a 7-14 day course of orally administered Vancomycin at a drug cost of about $450.
   c. is known to be caused by a toxin of Staphylococcus aureus.
   d. is a contraindication to sigmoidoscopy.

2. For clinical stage I melanoma, an excision margin of:
   a. 3 cm
   b. 4 cm
   c. .5 cm
   d. 6 cm
   from the lesion edge or initial excision scar is considered adequate and wide margins are probably of no benefit.

3. A patient has required a 25 unit blood transfusion perioperatively for trauma including ruptured spleen and a pelvic fracture. The most likely cause for generalized bleeding from the incision, venipuncture sites, nasogastric tube, and radial artery cannulation site postoperatively is:
   a. von Willebrand's disease
   b. thrombocytopenia
   c. transfusion reaction
   d. generalized deficiency of clotting factors.

4. The usual sequence of symptoms in acute appendicitis is:
   a. slight nausea, then vomiting and abdominal pain.
   b. diarrhea, vomiting, abdominal pain.
   c. vomiting, diffuse abdominal pain, then localized right lower quadrant pain.
   d. abdominal pain, nausea, vomiting.

5. An otherwise healthy 25 year old man presents with a three day history of an increasingly tender lump in the perianal area. You diagnose a perirectal abscess. The best treatment is:
   a. stool softeners and warm sitz baths.
   b. antibiotics and sitz baths until the abscess "points".
   c. incision and drainage.

True or False

6. A bone scan should be obtained for staging purposes in all newly diagnosed breast cancer patients.

7. A five minute scrub with an iodophore compound for the surgeon's hands is adequate and is comparable to results after a ten minute scrub.

8. Ten per cent of patients with proven major arterial injuries may have normal pulses distal to the injury.

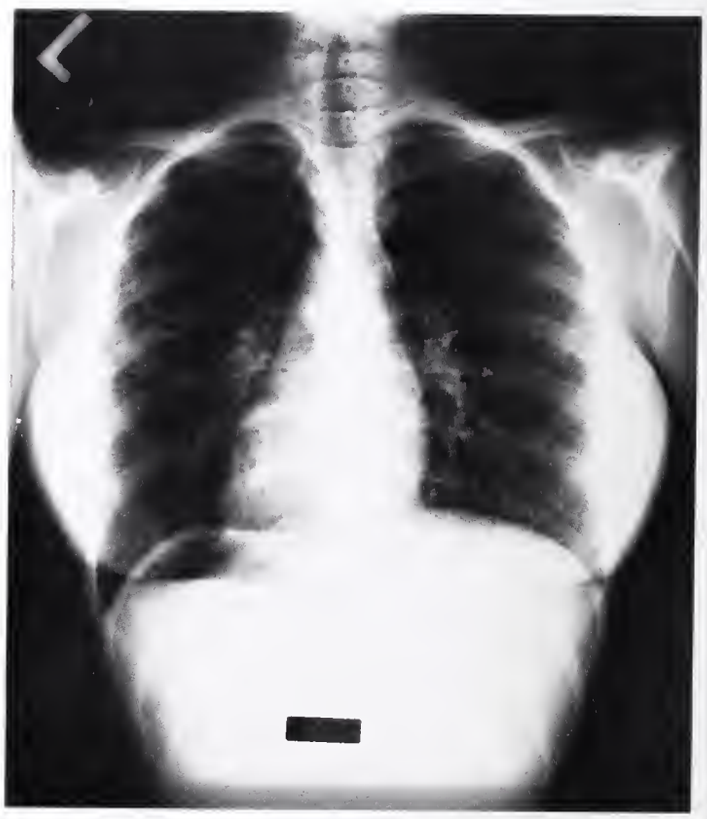
9. Spontaneous pneumothorax is recurrent in about 30% of patients and recurrence is probably best treated by open thoracotomy with abrasion of pleura and oversewing of blebs.

10. There is a significant increase risk of developing thyroid cancer in patients receiving head and neck irradiation in adulthood.

X-RAY OF THE QUARTER

The chest radiograph is of a 25 year old black female with cough and mild shortness of breath.

Try to characterize the abnormality seen and offer differential diagnosis.

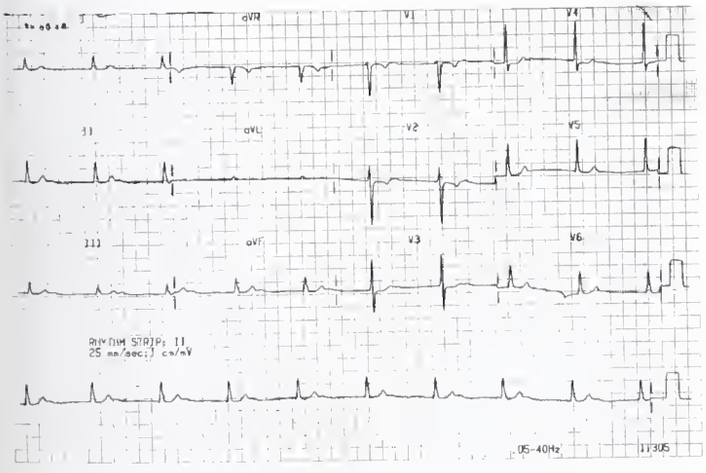


ELECTROCARDIOGRAM OF THE QUARTER

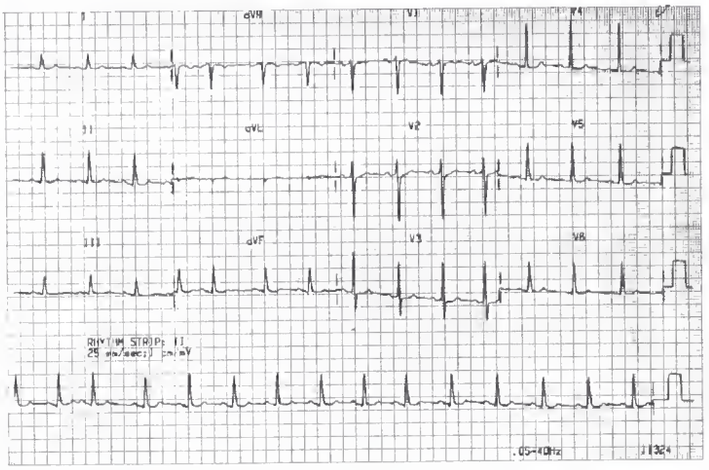
The electrocardiograms illustrated below were obtained on consecutive days from a 75 year old lady admitted for uncontrolled diabetes mellitus. The patient had undergone mitral valve surgery during the previous year. She had been in chronic atrial fibrillation. Ventricular response was controlled with digoxin. On her admission a regular pulse was noted, she was dehydrated, hyperglycemic but not in overt congestive failure. Her BUN and serum potassium were elevated. Electrocardiogram "A" was obtained. During the 24 hours after admission she was rehydrated with intravenous saline and treated with insulin. Her weakness on admission was markedly improved and serum potassium was normal by the second day when electrocardiogram "B" was obtained.

Questions:

1. What is the rhythm illustrated on electrocardiogram "A"?



2. How is the rhythm related to the rhythm seen on electrocardiogram "B"?



EDITORIAL

In this issue of Alaska Medicine is instituted another new section, History of Medicine in Alaska. Each quarter the section will carry an article dealing with the history of medicine in Alaska. For the first few quarters Robert Fortuine, M.D., has been kind enough to submit several interesting papers dealing with historical aspects of Alaskan medicine. The first paper appears as an introduction in this issue and the others will follow throughout the year.

We of the editorial staff invite further papers on historical aspects of medicine in Alaska, be they short stories of personnel experience or essays such as Dr. Fortuine's.

Hopefully the Alaska Medicine Essay and History of Medicine in Alaska may spark comments from our readers in addition to informing our subscribers of sometimes controversial and interesting topics.

Also in this issue is an extremely important topic regarding two cost containment programs implemented by Blue Cross. Dr. Parry addresses the issues in The President's Page where the manifesto is reproduced. All readers are urged to contemplate long term sequalae of the dogmatic step taken by yet another body trying to socialize and control medicine. It is obvious 1984 is upon us.

ANSWERS TO PHYSICIAN SELF ASSESSMENT

1. *b.*
   Ref: Sleisenger MH, Fordtran JS. Gastrointestinal Disease, 3rd Ed, Vol II, 1983, WB Saunders Co, pp 168-84.
2. *a.*
   Ref: Aitken DR, et al. The extent of primary melanoma excision: a re-evaluation -- how wide is wide? Ann Surg Nov 1983; 634-41.
3. *b.*
   Ref: Counts RB, Haisch C, et al. Hemostases in massively transfused trauma patients. Ann Surg 1979;190:91-99.
4. *d.*
5. *c.*
6. *False.*
   Ref: Feif SA, McLelland R. Breast carcinoma, current diagnosis and treatment. Masson Publishing USA, Inc., 1983;495-97.
7. *True.*
   Ref: Galle PC, et al. Reassessment of the surgical scrub. Surg Gyn Ob 1978;147:215-218.
8. *True.*
   Ref: Perry MD, et al. Management of arterial injuries. Ann Surg 1971;173:403-408.
9. *True.*
   Ref: Cannon WB et al. Pneumothorax: A therapeutic update. Am J Surg 1981;142:26-29.
10. *False.*
    Ref: Maxon HR, Thomal SR, et al. Ionizing irradiation and the induction of clinically significant disease in the human thyroid gland. Am J Med 1977;63:967-978.

ANSWER TO X-RAY OF THE QUARTER

The abnormality is confined to the pulmonary parenchyma. It consists of small rounded nodular radiopacities measuring approximately 3-4mm in size. The heart, mediastinum and hila are normal. No evidence of pleural effusion is seen.

The small nodular densities for practical purposes can be classified as miliary nodules in the parenchyma. By one definition miliary nodules are less than 5mm in diameter, acinar or alveolar densities are closer to 6 to 7 mm in size. Differential diagnostic possibilities would include an acute fungal infection such as histoplasmosis or coccidioidomycosis, histiocytoses X, metastatic malignancy such as thyroid carcinoma, sarcoidosis and miliary tuberculosis. One might even include other unusual pneumonias such as early chickenpox pneumonia or opportunistic infections such as cytomegalovirus or Pneumocystis.

The diagnosis in the patient is sarcoidosis.

Sarcoidosis is a disease of unknown etiology characterized pathologically by the presence of non-caseating granulomas. It can effect multiple organs including lung, liver, spleen, lymph nodes, skin and bone, as well as the eyes and the central nervous system. It is most commonly found in the black population of the United States, particularly in black women who have an estimated incidence of 10 to 17 times that of their causasian counterparts.

Radiographic findings in the chest can be classified into three groups. The first is hilar or mediastinal lymph node enlargement without any pulmonary abnormalities; the second is diffuse pulmonary disease with or without lymph node enlargement; and third is pulmonary fibrosis.

Between 75 and 90% of patients with sarcoidosis will have bilateral hilar lymph node enlargement with or without the diffuse pulmonary parenchymal changes.

The diffuse pulmonary changes can be subdivided into three basic patterns: the reticulonodular pattern, the "acinar" or "alveolar" pattern, and large parenchymal nodules. The patient would be classified as reticulonodular pattern having very small nodules more closely resembling miliary patterns which are more unusual in sarcoidosis.

The changes of pulmonary fibrosis can progress to irreversible changes of pulmonary fibrosis, scarring and even cavitation.

The overall mortality rate ranges from approximately 5 to 10% and is most commonly due to cor pulmonale secondary to the pulmonary fibrosis.

REFERENCES

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ANSWERS TO ELECTROCARDIOGRAM OF THE QUARTER

1. There are several heart rhythms which would look like that seen on EKG "A". Since she had been in chronic atrial fibrillation one could assume that she still is in atrial fibrillation with imperceptible fibrillation waves. The regularity of the ventricular beats would come from a regularly firing junctional pacemaker uninfluenced by the atrial fibrillation due to a block high in the A-V junction.

Another possible diagnosis is sinus rhythm without atrial depolarization. In the presence of hyperkalemia the P wave amplitude usually

decreases and may decrease to the point where atrial activity can no longer be detected. When atrial activity cannot be seen, the site of the cardiac pacemaker becomes difficult to determine. It is thought that there is sinoatrial conduction and impulses are still being generated in the SA node and are conducted to the ventricles via special conduction fibers without atrial depolarization. In electrocardiogram "A" one cannot tell whether there is SA activity or not. So the two possible EKG diagnosis (atrial fibrillation with junctional escape or SA activity without atrial depolarization) are equally plausible.

2. In electrocardiogram "B" we clearly see sinus rhythm. This means that either she converted from atrial fibrillation from day one to day two, or she was in disguised sinus rhythm on the first day and developed perceptible atrial depolarization by the second day with normalization of her serum potassium.

Since there was an increase in heart rate during a 24 hour period characterized by improvement in general metabolic and hemodynamic status I would favor atrial fibrillation with a junctional escape rhythm as the most likely EKG diagnosis for electrocardiogram "A". By the second day her potassium was normal thus reducing the A-V block and she converted to sinus rhythm.

Peaked narrow tall T waves are well known in hyperkalemia. Less often seen, but very important changes in heart rhythm, should also be recognized. One can see intraventricular conduction defeats, decreased amplitude of P waves or absent P waves, bradyarrhythmias, and A-V conduction defects. I believe EKG "A" is a good example of these less common abnormalities of hyperkalemia.

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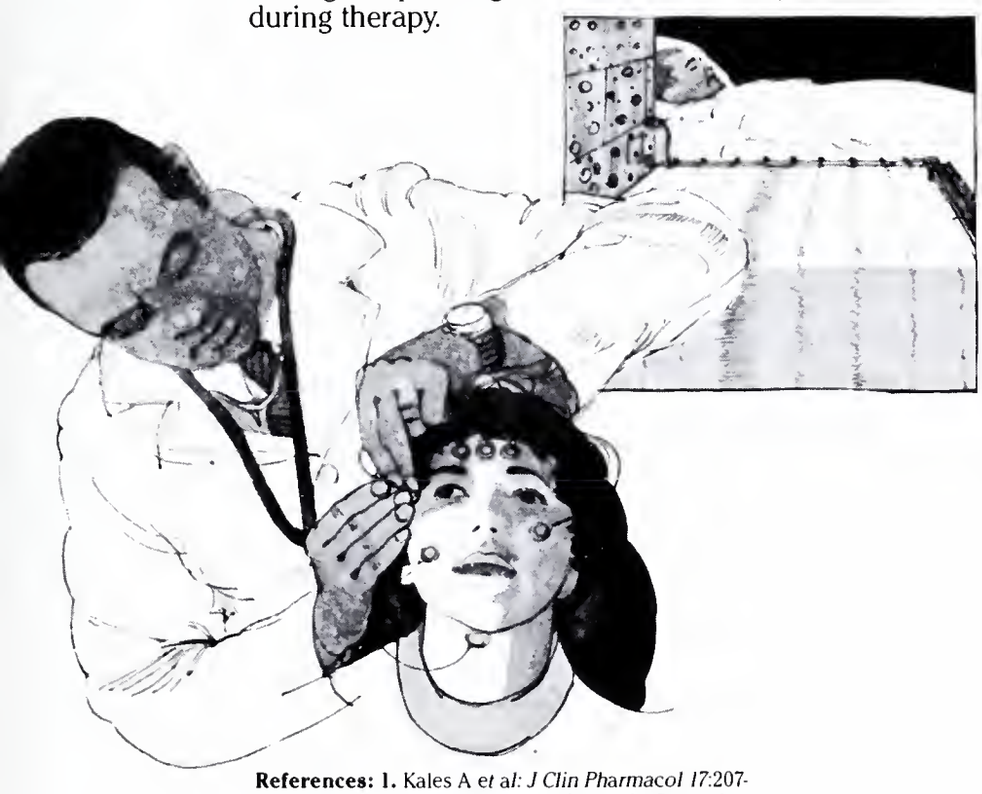
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.



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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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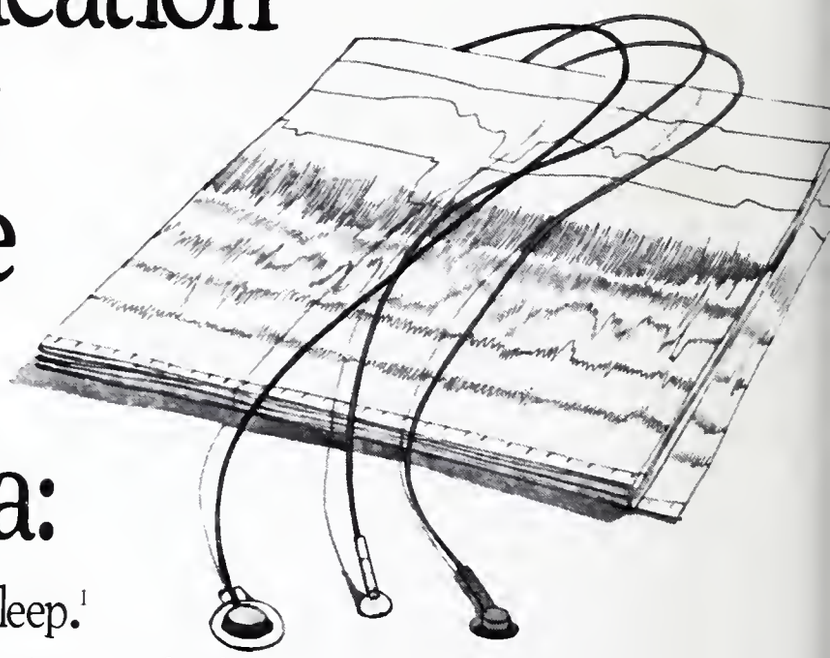

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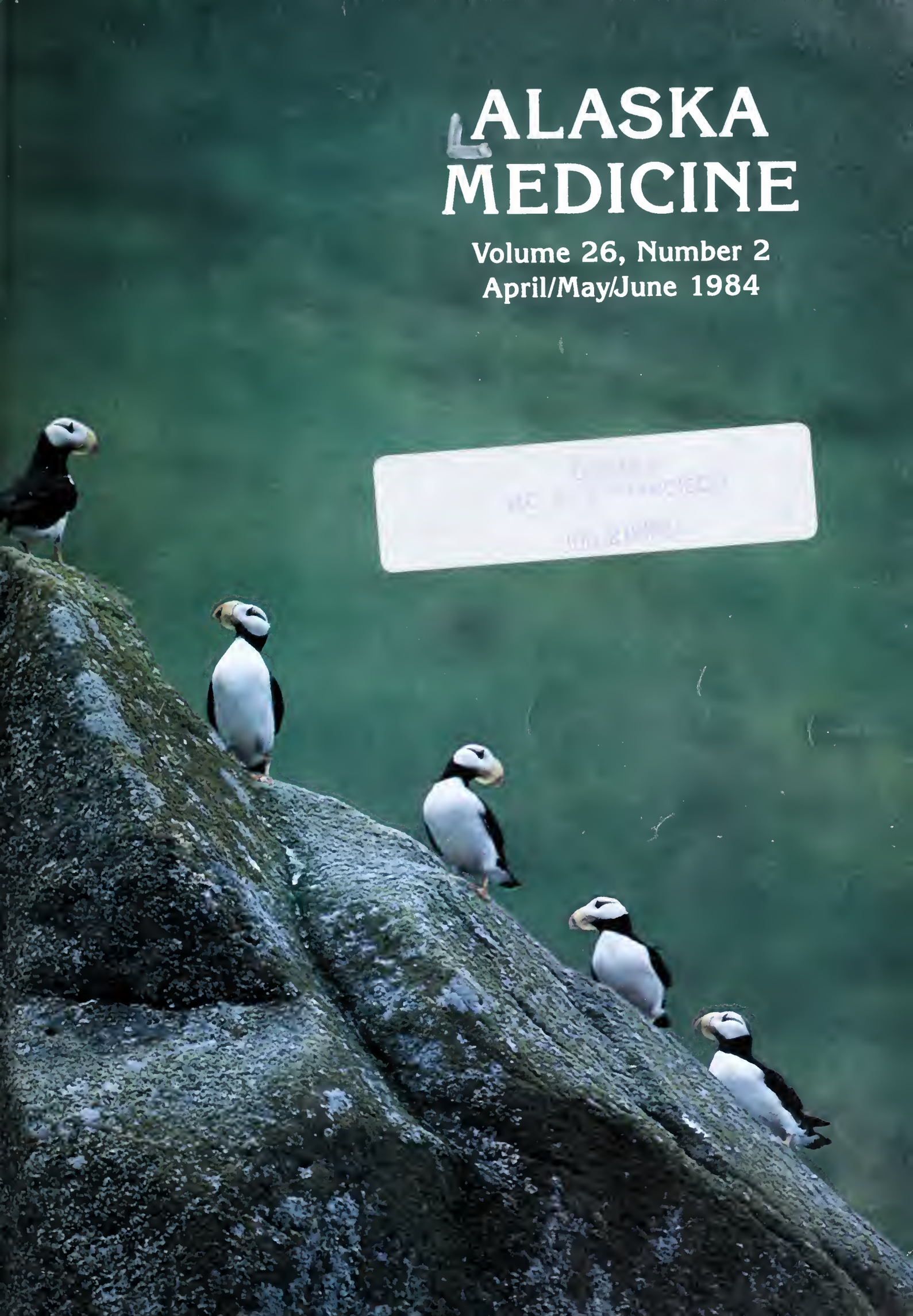
ALASKA MEDICINE

Volume 26, Number 2
April/May/June 1984



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ALASKA MEDICINE

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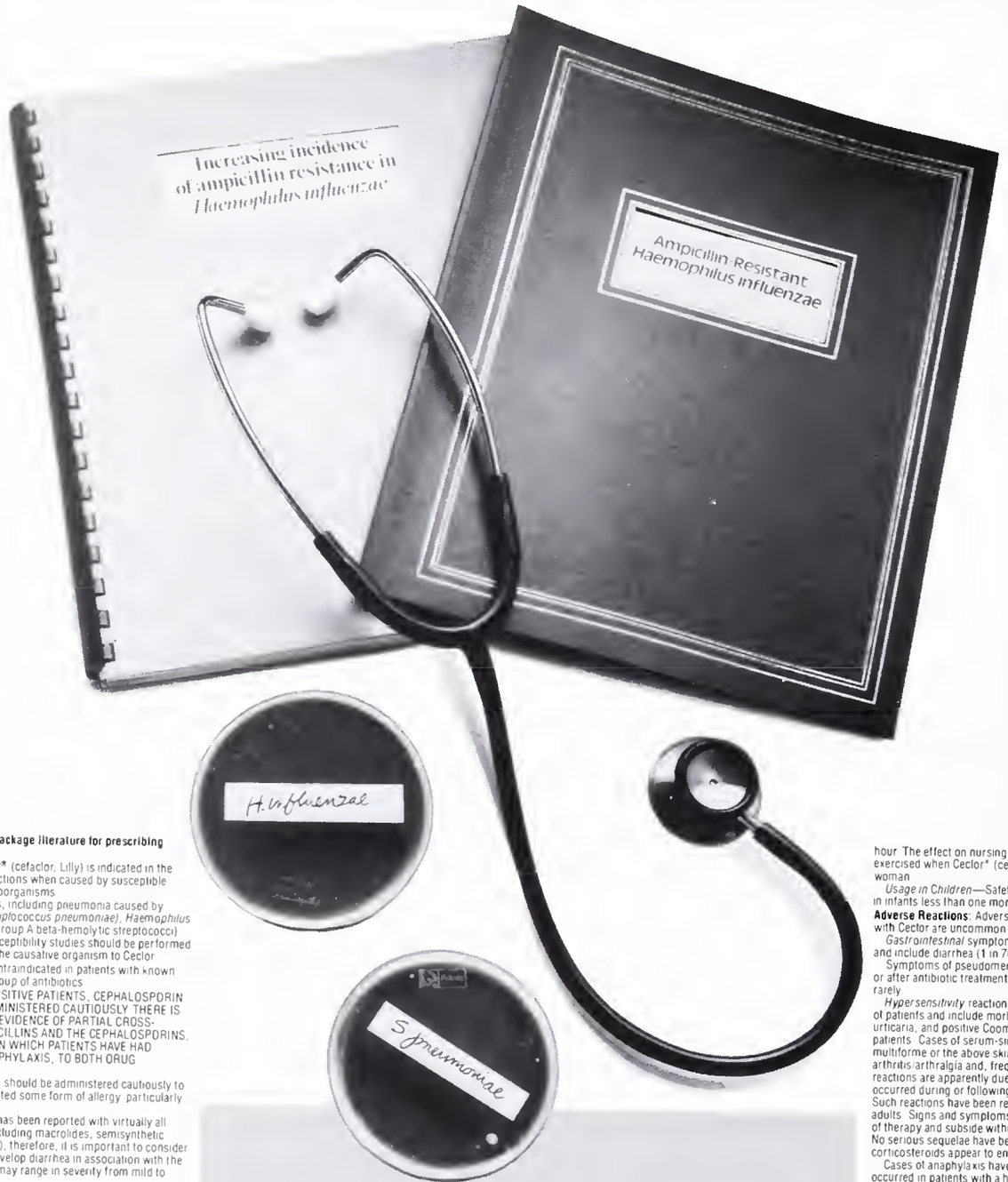
An added complication... in the treatment of bacterial bronchitis



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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Indications and Usage: Ceclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

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Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by C. *difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known. Caution should be exercised when Ceclor* (cefaclor, Lilly) is administered to a nursing woman

Usage in Children—Safety and effectiveness of this product for u in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either durin or after antibiotic treatment Nausea and vomiting have been reporte rarely

Hypersensitivity reactions have been reported in about 1 5 percer of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 20 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain—Transitory abnormalities in clinica laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic—Slight elevations of SGDT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae* [8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

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AN ALASKAN EXPERIENCE WITH CARDIOPULMONARY BYPASS IN RESUSITATING PATIENTS WITH PROFOUND HYPOTHERMIA AND CARDIAC ARREST

George Seuffert, M.D.

Successful treatment of profound hypothermia and cardiac arrest using cardiopulmonary bypass for rewarming has been reported from a small number of centers (1,2). The following two cases represent experience with the technique in Alaska.

CASE 1.

A 34 year old female ingested 750 mg of Amitryptiline and 1 g of propranolol at approximately 2030. Later in the evening the husband noticed her to be sleepy and placed her in a tub of cold water. Knowing of her drug ingestion, he wanted to teach her a lesson since she would be cold and miserable when she woke up. He watched a basketball game on television and during commercial breaks added cold water to the tub, turned on the shower and slapped her. She responded to his stimulation until the end of the game when she was noted to be very cold, blue, apneic and without response to the most vigorous stimulation.

The paramedics found her lying on the floor very cold and wet at 0038. She had no respiration, blood pressure or pulse. An EKG showed asystole. She was treated with external cardiac massage, endotracheal intubation and ventilated with 100% oxygen. Atropine 0.5 mg and 100 meq of $NaHCO_3$ were given intravenously. She developed a fine ventricular fibrillation. Intravenous Lidocaine (100 mg) was given followed by three DC shocks (320 watt-seconds per shock). On the way to the hospital an additional 100 meq of $NaHCO_3$ was administered.

At the hospital closed chest cardiac massage was continued. Her initial temperature was 68°F (20°C). Several hours of massage and warming attempts with blankets, heated oxygen and gastric warming produced no increase in temperature. At 0330, with a core Temperature of 67°F (20°C), she was taken to the OR.

While cardiac massage was continued, her right femoral artery and vein were cannulated and cardiopulmonary bypass was instituted. Fifty minutes after bypass her core temperature was 95°F (35°C). She was in fibrillation and was given one DC shock at 100 watt-secounds, restoring sinus rhythm. Rewarming continued until 0445. Blood gases and electrolytes were within normal range. At 0500 she was weaned from bypass using a low dose dopamine drip. Swan Ganz catheter and arterial lines monitored cardiac parameters. During bypass 4800 cc of balanced salt solution, one unit of blood, 1 g Thiopental, 50 mg decadron, 10 mg Pancuronium, 300 mg Tagamet had been administered and adequate diuresis ensued.

The patient was transferred to the intensive care unit with anticipated cerebral and pulmonary dysfunction. High doses of Thiopental 10 mg/Kg/hour for 24 hours (total dose of 14.4 g) were utilized as

well as PEEP. The patient's EEG was essentially flat and no reflexes were present. Pulmonary artery wedge pressures were maintained at 14-16 mm Hg; the chest X-ray was clear. Blood pressure was maintained with minimal doses of epinephrine. All laboratory values were in the normal range except for LDH of 3400 IU/L (normal less than 250) and SGOT of 2000 IU/L (normal less than 40).

On the first post-pump day the EEG showed burst suppression; knee and ankle jerks were present. There was no papilledema and lungs were clear. The cardiovascular system was stable and vasopressors were no longer necessary.

By the second post-pump day the LDH decreased to 525 IU/L and the SGOT to 150 IU/L. On the third post pump day the EEG showed less burst suppressions and higher voltage. All deep tendon reflexes were present. The lungs and cardiovascular systems were stable. A Barbiturate level was 5 mg/dl. All laboratory values were in normal ranges.

On the fourth post-pump day spikes and sharp waves were present on the EEG. The patient had good reflexes and purposeful body movements. Dilantin was started because of the abnormal EEG.

On the fifth post-pump day the patient was fully awake and extubated. She was neurologically intact and acted normal according to her husband. Laboratory values were normal and all invasive monitoring was discontinued. On the sixth post-pump day her recovery was complete. She was discharged on the seventh hospital day with no apparent sequelae from the hypothermic arrest.

CASE 2

A 39 year old female was found naked in snowbank by an early morning jogger. The ambient temperature was 20°F. She had been last seen in a bar at 0100. The paramedics arrived at 0724 and immediately started CPR. The EKG showed asystole. Her trachea was intubated and vomitus was noted in the oropharynx. During transport 1.5 mg of epinephrine, 1 g of $CaCl_2$, 2mg/500 cc via drip of isoproterenol, 1.5 g bretylol and 250 meq of $NaHCO_3$ were administered. One short burst of idioventricular rhythm was observed.

On arrival at the emergency room the patient had a core temperature of 67°F (20°C). Her pupils were fixed and dilated; her extremities showed signs of cold injury although none were frozen. Initial laboratory values were: pH 7.1, $paCO_2$ 105, paO_2 50, K + 5.5 Meq/dl, and blood alcohol 158 mg/dl.

Following heparinization, cardiopulmonary bypass was established with cannulation of the right femoral artery and vein. She was warmed to 93.2°F (34°C) and external cardioversion with 100 Watt seconds was successful. There was marked S-T segment depression.

During the period of bypass a number of problems were encountered. There was persistent anemia (highest Hgb 6.1 gm) despite 3500 cc of administered blood. Exploratory laparotomy and pericardial windowing revealed no source of bleeding. There was persistent acidosis despite administration of 600 meq of $NaHCO_3$. Mean blood pressure could not be raised above 60mm Hg despite massive amounts of vasopressors which consisted of 27 mg epinephrine, 800 mg isoproterenol, 7 g $CaCl_2$, 3 mg norepinephrine, and copious quantities of fluids (19 liters of plasmalyte). All attempts to wean the patient from cardiopulmonary bypass failed despite use of an intra-aortic balloon pump. Rapidly increasing central venous pressure and decreasing systemic pressure and pulmonary compliance eventually requiring 100 mm Hg pressure to ventilate the lungs were encountered.

Cardiopulmonary bypass was maintained until the sixth attempt to wean and the patient was declared dead. Post mortem exam showed massive pulmonary aspiration with particles of food in the alveoli.

Discussion

Cardiopulmonary bypass is an effective technique of rapidly raising body temperature and providing stability so that ventricular irritability and fibrillation during rewarming processes are not of concern. External cardiac massage provides only 30% of normal cardiac output whereas cardiopulmonary bypass provides a much higher circulatory output and improves perfusion of the vital organs during rewarming as well (3).

In other reported cases, renal failure, disseminated intravascular coagulation or adult respiratory distress syndrome are described; the first case had no such complications. Efficient rewarming, aggressive post pump care, and intrinsic good health contributed to her recovery. Both patients received multiple defibrillating shocks. These were ineffective as anticipated. Use of barbiturates to protect the brain following cardiac arrest is controversial.

The technique of rewarming has drawbacks. It uses many people and high technology; it is unavailable in remote areas; and one cannot predict who is salvageable before undertaking such an aggressive course of therapy. It may be feasible to initiate CPR in a remote area and medivac the patient to tertiary facilities.

Summary

Cardiopulmonary bypass is an effective means of rewarming a profoundly hypothermic patient with cardiac arrest. At present there are no means of predicting who will benefit from therapy. Prolonged external cardiac massage may provide enough circulation to maintain life during transport to a tertiary center.

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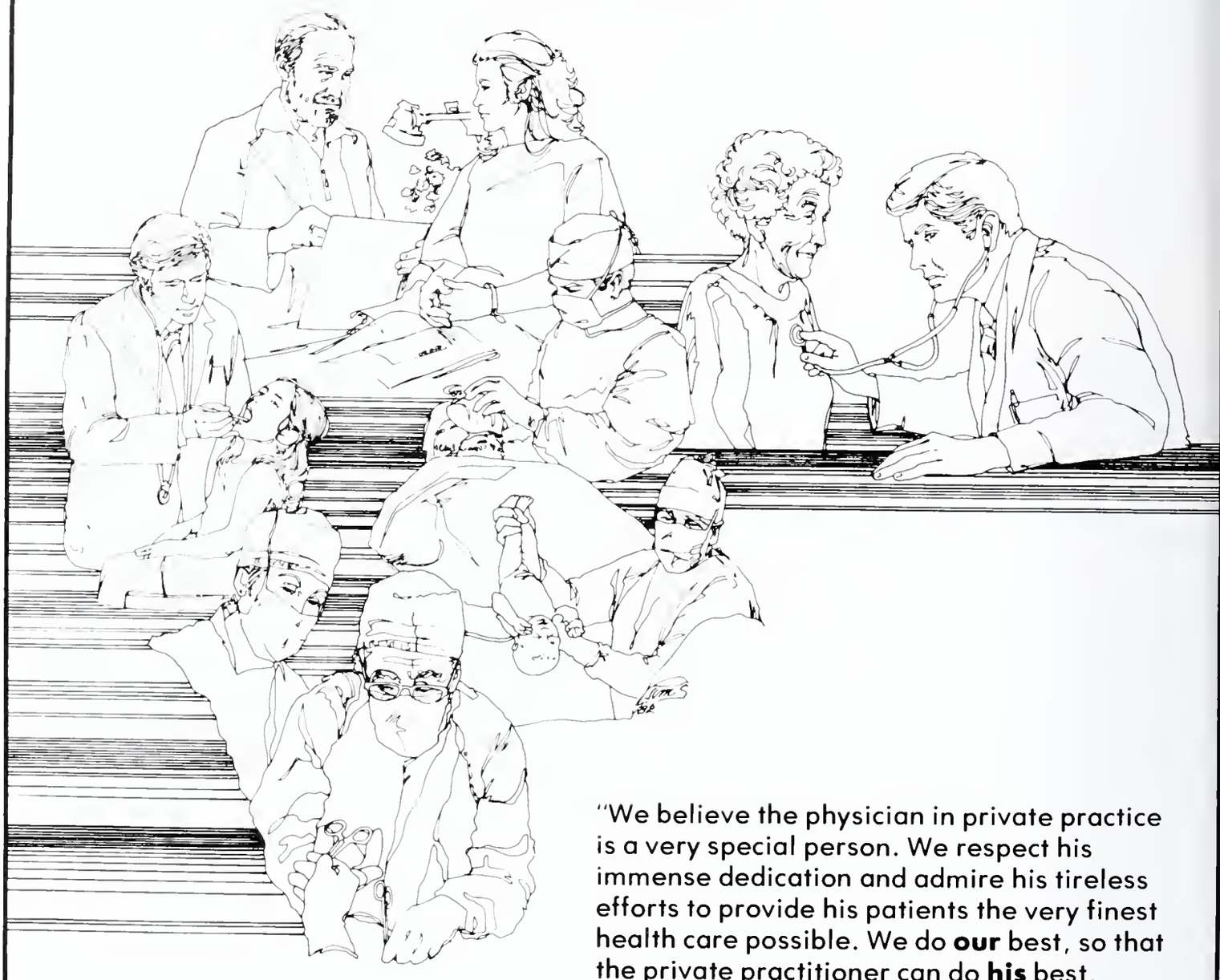

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ALTERNATIVE DELIVERY SYSTEMS
AN INTRODUCTION

A group of hospital physicians were recently asked to educate themselves on newer medical health care delivery systems arising in the U.S. The task was to educate physicians on the broad subject and make a written report. That outlined report is the foundation for this article.

The first major problem was definition of terms. As in many medical articles, the abbreviations boggle the mind. The encompassing term for the new plans is Alternative Delivery Systems or ADS. The variations are infinite but can be grouped into several broad types.

The HMO or Health Maintenance Organization is the oldest and most familiar. It is basically a prepaid medical plan with an emphasis on preventative care. The physicians are usually salaried and are usually located in one common area. Each physician shares in the profits, but assumes some financial risk as well. The patient enjoys a fixed fee per month but must choose a physician participating in the plan in order to receive maximum financial benefits. The HMO has in the past been granted assistance by the government as one trial solution to the problem of how to decrease medical expenses.

The Independent Practice Association or IPA is similar to the HMO although each participating doctor is in the plan for only a portion of his dollar income. Since the patient load from the IPA is small there is considerably less financial risk for the physician than the HMO. The physicians are paid from the plan after administrative expenses usually at a rate less than that received from non-participating patients. The patients enjoy a prepaid monthly fee, but must receive care from a participating physician. A non-participating physician would be paid the plans "usual" fee and the patient would be asked to make up the difference.

The new kid on the block seems to be the PPO. The Preferred Provider Organization does not lend itself to such a clear outline as others. There are as many variations as there are organizations but basicly there are similar characteristics. In its simplest form, there is a group of independently practicing physicians who agree to provide care for covered individuals at discounted rates. There is a negotiated fee schedule for a given service. Strict utilization review and control is generally the method of controlling fees. A PPO is frequently cooperatively linked to a hospital (which may or may not actually be participating in the given plan). A member physician is guaranteed a rapid fee claim settlement (usually less than 30 days) and a larger number of patients. Since the physician helps in the fee negotiation he assumes little financial risk. The patient deals with the physician on a fee for service basis and is not locked in, although he may pay more at a non-participating physician's office. It is not a pre-paid medical plan.

A recent development in California is the EPO or Exclusive Provider Organization. The plan requires some legislative impetus and is still mainly a California hybrid of the PPO. Member patients are limited to participating physicians or they must pay the entire fee out of pocket.

Nationally, interest in the types of plans is growing by insurance companies, corporations, government, patients and physicians. Why the interest in the alternatives?

The ones paying the health care dollar are understandably very interested in any cost cutting plan. The present health care system for many is becoming just too expensive. For the patient, corporation, government and insurance company, the alternative plans are attractive--the cost is less and the care is advertised to be identical to the present system. What could be better! The larger employers or coalitions are realizing they have significant strength in bargaining for a benefit package at a lower premium compared to insurance companies.

Hospitals are not only contributing, but encouraging the growth of alternatives. The dollars under Diagnostically Related Groups (DRG's) will be fewer and an efficient medical staff that can keep the hospital full and in the black is obviously going to be very important. A PPO seems to be an ideal vehicle since its structure includes apparently cost effective physicians. As competition for patients to fill the beds increases, so does the variety of alternative plans to trap that population.

Even physicians are part of the movement to form the plans. This stems from the oversupply of doctors and the increasing competition for patients and their dollars. In 1950 there were 14 doctors per 100,000 population, and in 1980 there were 19.7 per 100,000. By the year 1990 there will be a projected 23.9 physicians per 100,000--what is felt by planners to be 70,000 too many. It is agreed that large urban areas and "sunbelt states" will suffer the brunt of the problems but most feel no area will be spared. A new physician will be able to capture patients and get a faster dollar payment by joining or establishing alternatives. A slightly reduced dollar per patient will be offset by patients the physician would otherwise not have at all. In some states forecasters are predicting the end to

solo medical practice as we now enjoy in Alaska.

The projected impact of Alternative Delivery Systems is complex. It will probably limit the days of the "solo practitioner". He will be forced to join with others to survive. Greater cooperation between hospitals, their administrators and the medical staff will be necessary. The hospitals can control the cost of medical service but the staff controls the amount of service. In the long run (and perhaps only in certain areas) the physicians and hospitals that are able to practice efficient medicine will remain. The original American goal of quality medical care may instead become a nightmare for some as there becomes an unwillingness to care for the poor, sick, and elderly. The DRG payment system will definitely hasten the change.

The committee that drafted the original document reached few conclusions. The role was primarily an educational one. Yet, the committee recognized a potential for the formation of some alternative delivery plan (because of a few large employers). It was felt the plan would take the PPO form and be hospital-based with impetus from local business, hospital or insurer. They concluded competition for patients to fill offices or beds would likely encourage such a plan. The research did not leave the committee with a comfortable feeling that PPO's are good or bad. There is yet no good proof that a PPO is effective in its stated goal of giving the same quality service for less.

Ronald W. Keller, M.D.

The author wishes to thank the members who participated on the committee to make this article possible -- George Gates, M.D., Kenneth Laufer, M.D., Peter Marbarger, M.D., John Mues, M.D., and Thomas Wood, M.D.

"ECONOMIC SURVIVAL FOR THE 80's — ARE WE AN ENDANGERED SPECIES?"

Introduction

In February of this year a planning congress was held at Providence Hospital in Anchorage. The purpose was to assess and anticipate forthcoming changes in medical care and their impact on private practitioners, hospitals, and delivery of health care. Several speakers from the lower 48 attended to give comments on issues in their particular area of expertise. Three of those talks extracted from cassette recordings follow. They are reproduced not to represent the editorial staff's nor the medical society's opinion but rather as information Alaskan physicians may find interesting.

The first paper is by Arnold Glassman, manager of ARCO benefits, communications, and programs. His bias is that of big business, the employer's responses to rising health care costs. He has almost 30 years corporate experience and discusses several points deserving careful contemplation.

The second paper is by James Silverman, M.D., chief of staff at Stanford Medical Center. He is an expert on DRG's. His paper gives a comprehensive rundown on DRG's, their effect on hospitals and physicians, and what may be in store for us in the future.

The third paper is by Jeff Goldsmith, Ph.D., President of Health Futures Inc. and national technical advisor for Ernst & Whinney. Dr. Goldsmith approaches the problem as an experienced planner discussing physicians and hospitals in conflict or partnership.

All three papers have a common message -- physicians seem to no longer be in control of health care. It is time we understand the changes not only for our own survival but the survival of quality health care as it has been for decades in this country.

At the end of the three articles is a glossary of terms for those of you who are like me and have trouble remembering those three letter abbreviations that have replaced "four letter words" in our society.

Wm. H. Bowers, M.D.
Editor

EMPLOYER STRATEGIES FOR HEALTH CARE PLANNING

Health care has become a right in our society. No longer do we question entitlement, but rather the questions are all of degree: How sick? How badly hurt? How much Care? We should be proud that we can look upon this as a right and not a privilege that could be withheld. It goes well with our societal responsibilities to our neediest and most vulnerable citizens. This is also a compliment of a high order to professionals dispensing health care and to the enormous supporting cast working with them. Success has a price though, and the price is going up. Health care costs have been rising more rapidly than the rate of inflation, and more rapidly than the average individual's disposable income. The national health care bill was $320 billion in 1983 and represented close to 10 percent of the gross national product. It was about 5 percent a quarter century ago.

Unless the trend line is changed, health care costs will continue to rise faster than the nation's economy. One driving factor is demographics -- the aging of our population. Medicare and Medicaid expenses, which more than doubled between 1976 and 1981 ($73 billion in 1981), will double again by 1986, absent major changes in programs. The federal spending on health care alone is nearly as great as the federal support for pollution control, education, housing, community development, transportation, energy programs, and international affairs. Thus by any measure imaginable, health care is a gigantic societal commitment.

Given these numbers and implications, one could logically argue for two points:

First, we must rearrange the incentives within the system. The current payment system favors cure but not prevention. We reward for providing more

services, yet no reward for exercising constraint. Perhaps the Chinese had the right idea -- I understand their doctors only got paid when their patients were well -- and when you think about it, isn't that the financial theory behind the HMO model? We have to be clear about our objectives. What really counts is the outcome as measured by the health of the people, not the amount of medical or nursing service provided.

Second, we must recognize that problems associated with health care are societal in nature and cannot be solved within the health care industry alone. All major groups in society should help to establish priorities and manage this national resource better. The private sector is in a good position to provide the lead in improving the health care system. The most underused tool of all are the private corporations which pay for all or most of the medical expenses of their employees. It is time for more of those companies to become active, to demand more for what they are buying, and to change some of their own habits that keep the system running in its old ruts. What we should strive for is not a system that tries to promise everything for everybody, but one that assures access to necessary health care for all who are in genuine need (the operative word is "necessary"). It also should be a system that retains options for special attention (above and beyond medical necessity) to those who are willing to pay their own money for the luxury of Cadillac medical services.

Just a few more statistics to nail down the issues in a micro sense: At Atlantic Richfield, our health care costs (and I'm talking insurance costs, not lost time or lost productivity) have reached $100 million a year (and we are not labor intensive). That represents 5% of our labor costs; almost 20% of our cash benefit costs. Five percent might not sound so bad, but remember, health costs are relatively fixed, and we are in a high-paying industry. In the average business, you could be talking 8-10% of labor costs or more! I could install an excellent pension plan for that price!

If you didn't have it before, you now have a sense of the magnitude of the issue from the business point of view. Government is struggling with the problem. Providers, I'm convinced, are rapidly becoming concerned. Insurance carriers are moving beyond talking about it. Employers, who after all are the true private sector consumers in many cases, are finally beginning to move from their former lethargic "what can we do about it?" positions. Employees pretty much continue on their "free lunch" path. It's there. Use it to the fullest. The insurance company will pay! But there is no such thing as a "free lunch". There was no "free lunch" in the old time saloon; and there is none today. What we as employers pay for health care today will not be paid someplace else tomorrow, either in direct compensation or other benefits.

The current crisis over the cost of delivering health care in the United States is the result of actions taken and decisions made over many years. Resolution will certainly not occur over night. While sharing in the cause of the problem, other involved parties include employers, insurance carriers, organized labor, consumers and government. Together, they all must participate in the eventual resolution. Before a solution can evolve, we must cease blaming each other, generate a climate or mutual trust, and establish a process to better understand one another's views. Ultimately, providers, payers and consumers must do a better job of managing health care costs. Failing this, government surely will intercede.

No single employer (no matter how large) nor no single interest group (no matter how well financed) will alone solve the problem of sharply rising health care costs. The only way it will be resolved eventually, in my opinion, is through a partnership involving providers, employers, employees, insurance carriers, and the government. After all, the latter has a vested (although not always equitable) interest in the care of the elderly and indigent citizens. Employers can start in their own houses by designing plans in such a manner that they keep employees involved through premium sharing (if possible) and cost sharing through copays and deductibles:

— Plans control demand by encouraging effective utilitzation of the health delivery system. For example, by providing incentives for utilization of outpatient and ambulatory services, pre-admission testing, second opinions, home health care, and nursing home care for medical recovery periods that can get the patient out of a primary care institution.

— By promoting alternative system for delivery and payment, and encouraging conservative health care practices;

— And, finally, internally, employers can obtain some containment by educating their employees on the proper utilization of the health delivery system by:

- — Explaining the system so they are better able to shop for discretionary services, and
- — Explaining their coverages so that built-in incentives are effectively utilized.

There is one caution on internal plan design efforts. They can, indeed, go a long way in containing individual costs; but they won't necessarily impact alone on the overall health care cost pot in the macro economic sense. For example, when the federal government cuts back payments to providers below the providers' actual cost, who picks up the difference? The private sector does! That balloon keeps popping out someplace else!

I wrote earlier about a partnership of the involved parties which could help lead to a resolution. What appears to be an effective means of organiz-

ing one of the partners (the employers) is the employer coalition. They got their start about eleven years ago in the Midwest, spread to the East Coast, and now have reached the West Coast. For example, starting about 5 years ago, a coalition was formed in San Diego. Since that time, several others have been started in California: Los Angeles, San Francisco, Oakland, Sacremento; and in Santa Clara, Riverside and Orange Counties. At last count, there were 12 in California. Some of these coalitions are sponsored by the local or state chambers, others are independently formed. Some are limited to private employers; others have no membership limits. No matter how they are formed or structured, they generally have four common objectives:

First and foremost, understanding the health delivery systems: How it operates and how costs are generated -- by establishing non-adversarial relationships with provider organizations and representing industry on health planning agencies. Understanding the causes behind the rapid inflation of health costs is somewhat analogous to understanding the oil supply crisis of 1973-1974. Where did the fingers point in those bygone days? Some of you today may still be pointing your fingers in the same direction, but I think you'll all agree that there was more than one involved party then; and so it is with health care. It's not just that doctor or that hospital. It's all of us. And until we accept that fact, we'll never resolve the issues.

The second objective is impacting state and federal health care legislation by PRO actively inputing positions and alternatives. What we should avoid is the "no to everything" syndrome. We should be positive with our input and where we disagree, state it so factually and unemotionally offering viable alternatives. Look at GM. For years, they had argued against mileage standards. "Couldn't be done", they said. What they were really saying was that the market wasn't demanding those standards. Boy, were they wrong on both counts: when the market fell apart they met the standards in design. Unfortunately plentiful oil supplies in the short term are causing them problems.

Thirdly, the exchange of cost containment ideas amongst members - while we may read about plan design cost effective concepts, first-hand experience is always more beneficial for wise and effective decisions before implementation.

Finally, the assembling of data bases to determine performance against national and/or local norms - if we can establish these, they probably could be our most effective tool in combating the problem and weeding out the inefficient provider. Internally, at ARCO we have developed our own data base with our major carriers. Unfortunately the insurance industry is still struggling with new systems that are so vital to the collection of needed data, although significant progress was made in this sector during the past year.

When the Employers Health Care Coalition of Los Angeles formed, we limited membership initially to private employers only because of a perceived bad experience of some of the founding members on the California Chamber of Commerce's Statewide Health Care Cost Containment Committee. Membership in that organization included staff representatives from provider organizations such as the California Medical Association and the California Hospital Association whose very able staffs would inundate us with issue papers for immediate reaction. Some of my colleagues quit--I was more of a glutton for punishment and remained active (I still do, by the way) -- but the fear of not maintaining control of our destiny remained initially when we organized the coalition. Thus, not only did we exclude providers, we excluded public employers and insurance carriers as well! But we soon got our act together, felt more comfortable with our knowledge level, and recognized that we wouldn't/couldn't possibly meet our objectives without the open, active participation of the major parties.

At the start of 1982, we established dues for private employers primarily to get the attention of upper management. Opened membership to public employers, and established a non-dues paying, non-voting advisor membership to which we invited representatives of LACMN, HCSN, HMO Association of Southern California and the Blues. Our doors opened and the dialogue has been intensive as well as educational on both sides since that time.

In 1983, working with our advisor members, we issued a statement on cost containment issues and strategies. Its content was significant for several reasons. First, it addressed the issues from the employers' perspective. We own the fact we're culpable in causing the problem, and there are actions on our part that can be taken to alleviate the situation. Thus, we speak to demand issues first followed by supply side issues. While recognizing that primary responsibility for supply issues rests with providers, without business support and involvment, provider initiated strategies would very well fail.

Second, in our so-called Integrity Issue, we recognize that the focus of our attention cannot be limited to the private market place. It is essential that the health care system be viewed as a totality in which all patients, regardless of ability to pay, have access to appropriate care. Business must work with providers and patients jointly to ensure that government adequately funds programs for which it is responsible.

Finally, our statement was the joint effort of both our business and provider representatives and has been endorsed by both the Coalition and the provider organizations. That doesn't mean we agree

with every line -- every word, but we do believe in its direction. More importantly, it further firmed up an already strong bond amongst us. Our latest joint effort, just getting under way, is a task force looking at establishing standard criteria for utilization review. More and more businesses are purchasing UR services. Since the perception is that the purchasing of the service sets the rules, the objective of the study would be to defuse a potential confrontation while still in its infancy and concurrently meet the ultimate goals of all participants.

In summary, then, the Employers Health Care Coalition of Los Angeles is currently concentrating on understanding the system, developing a data base and attempting to cope with the crazy market that is evolving since the passage of California AB3480 which permits private contracting. Either as a private company or as the Coalition, we've been approached by groups of physicians, individual hospitals and various combinations, all selling the same concept -- preferred provider organizations. Believe me, we're supportive of alternative delivery systems no matter what set of letters they may go under. What appears to be happening now is that everyone is reaching for potential market share and do not appear to be concerned with the quality of the product.

Discounts, in and of themselves, are not the answer. In fact, I would question the legality of certain private sector discounts which force further private sector cost shifts. What will save employers bottom line dollars in the long run is contracting with efficient providers -- providers who have a track record of utilizing the most efficient delivery mechanisms in providing quality medicine. They utilize only those services that are needed in the most efficient period of time. With that group, I don't need a discount and I'm convinced I'll do better than I would be contracting for a 10-20% discount with an inefficient group!

What can employers do? Well, first, move cautiously as the insurance industry appears to be doing, with the exception of Blue Cross of Southern California. Secondly, it would behoove us to design the framework for a PPO that we could work with and look for input from the providers; and thirdly, we should test the concept -- not with one employer but with several in a given area. When we test, we must be able to compare our experience with our fee for service and HMO plans. It goes without saying that a fair test would embody design changes in our benefit plans that would provide incentives for employees to utilize the PPO delivery mechanism.

One of the most notable achievements this past year has been the very significant rise of the level of awareness within the business community. Let me demonstrate. The Business Roundtable is an organization of CEO's of the largest corporations in the country. Their policy committee includes such notables as Clifton Garvin, Walter Wriston, Michael Blumenthal, Phillip Hawley, Donald Kendall and Rawleigh Warner. In February of 1982, they issued a report entitled "An Appropriate Role for Corporations in Health Care Cost Management". To those of us who had been involved with the issues for some time, there was nothing new or startling with the recommendations contained in the report. What we did find out, very quickly however, was that executive interest in and support for our individual activities increase many-fold. While I have enjoyed strong support for over five years, even at ARCO the level of interest is now in the CEO's office. The BRT did not just issue a report. They have assigned staff to follow progress with identified coordinators with corporations and report back to the membership.

Beyond the national effort, The California Roundtable, a similar organization of California corporations, has identified the issue of health care cost management as a top priority and has established a task force to address it. This group includes top executives from ARCO, GE, Crocker National Bank, Rohr Industries, Prudential and Lockheed. They are coordinating their efforts with still another statewide business group attacking the same problem: the California Chamber's Statewide Health Care Cost Containment Committee.

Now, the point that I want to drive home is the fact that medical care costs have gotten the attention of business executives. Believe me, the pressure is now coming down on the benefits managers to do something about it. What my colleagues and I are attempting to avoid is a "knee-jerk" reaction. How successful we'll be remains to be seen.

While the preceding efforts may have some impact on getting our arms around the problem and containing the rapid rate of increase of health costs, ultimately each of us as individuals must accept more responsibility for our own health. While there are no miracles out there, the literature bulges with evidence that a large payback would be ours not only in health costs but in quality of life and productivity if we cleaned up our lifestyles. More and more employers are supporting programs to stimulate this change, but their effectiveness will only be judged over long periods of time.

In summary, we're victims of our own success. We've expanded access to health care and turned this into a right because we have had the technology, human resources and wealth to do so. It must be regarded as a triumph of our society, but it has its limits. Employers have finally recognized that the health care cost problem is indeed serious -- it will not go away without our active involvement and action. We need more participation and leadership from the private sector; more collaborative efforts among health care professionals; more choice among programs; and

more use of technologies and management skills that can reduce costs while preserving quality. Above all, we need different incentives.

Time is a factor. Health care is a socially and politically hot issue. It will get hotter as more people discover there is no such thing as a free lunch. To do nothing is a strategy that is likely to be the most costly and painful of all!

Arnold Glassman
Manager ARCO Benefits, Communications and Programs

DRGS EFFECT ON HOSPITALS AND PHYSICIANS

I am going to discuss DRGs from philosophy to implememtation, translating a governmental financial problem to the bedside. For most physicians, that is where the action is and that is why this issue is important.

First of all, you must know where the real power of DRGs lay. DRGs probably have little to do with the way we practice medicine. Their real power is getting physicians to think about cost containment. DRGs are merely one method of taking money out of the health care system--it is the government's method, but there are many others. What they all translate to is DECREASED DOLLARS FOR HEALTH CARE.

The reason DRGs are interesting is that you can fiddle with them. This is a system that allows you to maximize reimbursement if you spend the time learning how to do it-- and it can be done ethically. The government could have come up with an easier less complicated system that was not open to such maximizing activities. They could have merely totaled the amount of money they paid your hospital last year, divided it by the number of Medicare patients treated, and paid you that much per admission or discharge for this year. This is a very simple system and had they done that, all we could talk about would be cost containment. The DRG system therefore gives us some latitude and we need to learn how to use such freedom.

I will spend some time discussing reimbursement because that is what DRGs are about. I will show you how DRGs work, how they are put together, what the problems with them are, and how they will impact practitioners and hospitals.

In October, 1983, this new payment system started for Medicare patients. The starting date varies by hospital related to each hospital's fiscal year. For Stanford, the starting date is October, 1984--we are in the last group starting, again, because of our fiscal year. We will be going from an old system that was called Retrospective Cost Based Reimbursement (RCBR) to a new system called Prospective Price Based Reimbursement (PPBR). What is the difference between them? Retrospective means after the fact. The patient bill is generated after the service is given, and for Medicare, that bill is generated after the service is given, and for Medicare, that bill is generated at cost. It does not matter how much you cost, you get it. If Providence Hospital costs $5,000 for a myocardial infarction and Stanford costs $6,000, Providence gets $5,000 and Standford gets $6,000. If Fairbanks Memorial can treat the same patient for $3,000, they get paid 3,000. You get paid what you cost and for that reason there is no incentive to cut costs. On the other hand, you do not get one nickel more than it costs--you make no money on these patients.

Prospective means the payment level is set beforehand. The price per diagnosis (or discharge, day, admission) is set before the patient comes into the hospital. Note that it is "price" not "cost" under this new Medicare payment system. Costs can be considered wholesale, price is retail. Therefore, you can make money on PPBR patients. But, you can lose money as well. Once the price is set, if your cost is lower than the price paid, you make money. If your costs are higher, you lose money.

This is an extraordinary change in reimbursement, a 180 degree turn, changing from retrospective and cost to prospective and prices. Remember, this new system is really only one type or prospective payment system. At this point it is only for hospital in-patients, and it is only for Medicare patients. The state of Washington supposedly is planning to include their medicaid patients under a DRG system. Furthermore, I believe it is in Kansas that Blue Cross may pay by DRGs. I am not sure DRGs are a good system, but it looks like it is going to spread, and therefore is necessary to understand.

As you may know, the system will be phased in over four years. In year one, 25% of the Medicare patient bill will be paid by a regional DRG rate and 75% by the old system (retrospective cost based). Therefore, 25% is what we are looking at in year one. By year four, 100% will be paid by a national

DRG rate. Notice what hapens when we go from 25% regional to 100% national. Initially, there will be eight rates set in Washington D.C., urban and rural levels for four parts of the country. But, when it becomes 100% national, all of the differences between how medicine is practiced will ultimately be averaged across the country. The simplest example of the problem with such averaging are lengths of stay in the east versus the west. Though those are quite different, when there is a national payment system there will probably be nationally acceptable lengths of stay.

This new system is applicable for all general acute care hospitals but excludes psychiatric, long term care, children's, rehabilitation, or licensed rehab and psychiatry units within acute care hospitals. Are those excluded at an advantage? They will be paid the old way, retrospective, cost based. Remember, it wasn't too long ago that we decried the constraints of that system on hospital revenues. Now, it's the "good" system!

We have gotten into this financial dilemma in health care because bills have just become too high. How did this happen? When I went into family practice in the early 1960's my patients paid me in cash or, if they did not have cash and couldn't afford to pay their bills, I did it free. Phyicians did that and hospitals did that also. Patients didn't have health insurance to any great extent and most of them didn't need it. It wasn't quite clear why patients should buy insurance when bills were not staggering. Remember what would happen at that time. As now, the patient bill would be generated retrospectively. Also, it was at prices, not at cost. Following discharge, the patient would go to the finance office, get his bill, and pay it in cash! He didn't have to go to the bank to borrow the money--he didn't need to get a lien on his house.

There was something different about the system then that kept bills reasonable. Of course the system changed in 1966 when Medicare came to our town. When Medicare came the physicians were not interested. Our greatest fear was ultimately it would lead to the government taking over health care. But, the government was extremely seductive. They told us we would not have any more free health care. In addition, if we went in with them, they would fund improved care for older patients by picking up the extra costs. They were true to their word--we made a lot of money and so did the hospitals. We no longer had any patients who did not pay. However, that concept plus the insurance policies that followed caused the explosion in health care costs. Once the insurance company or Medicare credit card is on the counter, it no longer matters what anything costs.

Most of our patient bills are still generated retrospectively. Medicare's are at cost - the private insurance companies pay charges. Remember, you don't make any money on your cost patients--you build your buildings on your full pay insurance payors. These are the patients that produce the extra revenue in each hospital for buildings, new programs, and new equipment. The funds do not come from Medicare patients.

We have two prospective contracts at Stanford now. One of them is with the state, called Medi-Cal and the other is with Blue Cross, called Prudent Buyer. Both of these contracts included a significant discount. When we take such contracts, it means a potential loss of reimbursement for the hospital. If we want to maintain our bottom line while we have these contracts, there are three quick ways to do it. One is to get more patients - but, unfortunately census is falling. The second choice is to cut costs, but our history with that solution is not good. The easiest solution is the third choice - to raise prices. So, we raise prices to the rest of the insurance companies and that essentially solves the problem. We shift the losses, the shortfalls, to the folks who would pay the full bills. That is what we've always done and that is why private insurance is so expensive. As government and other insurers limit their reimbursements, hospitals raise their rates to the other, full pay payors.

Where are we going to be in a few years? We probably won't have patients whose bills are generated retrospectively. It is likely that everything will be prospective and there will be some co-payments. Let me tell you why I say this. Since we signed the two contracts in our hospital, we have also met with many health insurance companies. They all want the same thing, a discount. Since we keep raising our prices, their rates have gotten so high they are losing policy holders. The policy holders start to look at the other offers because they are more affordable. Thus, the insurance companies are forcing hospitals to discount as well as the government. We can have long talks about insurance plans and benefit programs but for physicians what it really translates to is less dollars to the hospitals and what that means is less equipment, less studies, less buildings, and less services. What we really have to figure out is how to continue to practice the way we want with less dollars.

However, if you do not like the proposed system, let me suggest that it may not be the worst situation. A more difficult system moves towards either a capitation or a fixed revenue system. A fixed revenue system is like a county hospital where a hospital receives funds based on what the payor has available. It is cheaper but creates a much more spartan system of care than we are used to.

And perhaps most important, what is going on now, taking money out of the system, is not the worst part. The worst implication is changing the system, changing the way we practice medicine because of money.

Under retrospective reimbursements we do everything with very minimal controls. Under pro-

spective reimbursement we are going to be able to do only the most important things with major controls. This means some important issues need to be considered.

Hospital and Physician Cost Containment--Why didn't the cost containment demands of the Carter Administration work? There was no reason to make them work. Why contain costs if you get paid for whatever you do?

Ways to Maximize Reimbursement--There are techniques to do this under PPBR and I will go over the methods later in this article.

Implementation of Data Base Systems--One of the good things DRGs have done is make hospitals put in data base systems. There is a sense that if you know about DRGs you can manipulate behavior. This means you have to put good data into a data base and aggregate it. It may not help a whole lot, but it will really tell you about each other's practices.

Developing Outside Ventures--A way to increase hospital funds is through outside ventures. What is a good outside venture for a hospital? Doctors have problems with the concept of outside activities. I can tolerate a laundry (hospitals owning their own laundry services), or a nursing home to be used as a step down unit, but I have trouble when hospitals sell fur coats in their lobby boutique or when hospitals own shopping centers. There are many questionable ways that hospitals are now considering. However, when you are looking for dollars to dump back into the health care system to take care of the patients, maybe these innovative ways need to be tolerated. It will be difficult at Stanford, since the physicians are extraordinarily conservative. We are lucky we are allowed to sell newspapers in the hospital!

Hospitals fail, they do close. The government thinks a thousand hospitals will close under the new system. They all will close for the same reason. Not because doctors do not like them and not because patients don't want to go there. They will just not have enough money to keep the place open. So we will have a real job to do, providing adequate funds to care for the patients.

Let's review how things are under retrospective payment. The optimal hospital under retrospective reimbursement is full - the big problem is how to get enough personnel who don't burn out when the hospital has a high census. Stanford's problem was in the ICU where the nurses were working themselves to destruction. Also, you need to attract a correct patient mix to fulfill your hospital mission. I noticed the mission at Providence is to take care of all the sick people in Alaska. That is a good mission. That is similar to the mission we have at Stanford except ours is to take care of all the sick people in the world. It is great to have such a hospital mission and it is important to have good specialists such as you do to achieve such lofty goals.

Although hospitals have rather lofty missions, physicians just want to be able to admit and do what they want on any kind of patient. They don't care if it is a rich one or a poor one. If it is a sick one, their mission is to put the patient in a hospital and treat him. Though that seems to be the hospital's mission as well, they may get titilated a little if you keep bringing in patients who can't pay the bill. The mission may begin to get troublesome if money runs out.

However, this retrospective system has provided extra money. There is net revenue over expense and that is what builds beautiful hospitals. What this extra revenue has led to I'll call the "old problem", that is, how to split up the money. Hospital Administration spends a lot of time trying to figure out how to spend it, on patients or on employee benefits, things for doctors, new equipment or new construction. We sit and argue how to use the money.

Before getting into DRGs let me discuss retrospective reimbursement and the hospital behavior around this system. Retrospective reimbursement is payment after the service is given with no defined limits; the hospital's goal has been to get more patients and more doctors. More doctors bring in more patients. You want to get doctors that bring the full pay patients. You don't want to attract the Doc who takes care of all the indigent patients. You want those patients to go to the other hospitals.

It is also important to realize how hospitals price. Because of the present payment system, hospitals price to maximize profit. If all your Medicare patients used your respiratory services there would be no sense raising your rates in that service. All you would get is cost, so why would you raise the prices in respiratory therapy? Hospitals raise prices where they have full pay patients. That is why the OR, lab, pharmacy, and X-ray are expensive. Full pay payors use those services.

Under retrospective reimbursement you have revenue centers and cost centers. Revenue centers are lab, X-ray, pharmacy, nursing units and probably the biggest of all, central supply. Examples of cost centers are the cafeteria, maintenance, utilization review and medical records. Under retrospective reimbursement the behavior during development of the operating budget is related to earnings. If the lab manager increases productively 20%, he's a hero. If he brings in extra revenue, he is granted new equipment and new employees. On the other hand, under Prospective reimbursement, once the price gets set there are no longer revenue centers, only cost centers. Under this scenario, when the lab manager comes to the budget hearings and states that he has increased productivity 20%, he gets fired!

Increased productivity usually costs some addi-

tional money and in this new system, **once the price gets set, the goal is to decrease utilization and thereby decrease costs.** How does such behavior translate to physicians? We could always have new patient care services such as a stat lab or a night technologist. All we had to do was ask. The hospital needed only to find a way to charge for the additional service. For example, the hospital could legitimately add an emergency or stat fee to cover the new expense. The system allowed that and paid for it. Now under PPBR the goal of the hospital would be to decrease any cost possible. Because of that these extra services will probably not be available unless they are critical for patient care.

Now, on to DRGs--DRGs are a case mix classification system. It is one of many. Why did the government choose DRGs? They had to choose a classification method for the proposed prospective reimbursement system. DRGs had undergone some considerable research. It was an attractive system to consider if the direction was to go towards paying for care via a grouping method. Other groupings did exist. A common one to many hospitals is called the CPHA list. This system has 6940 groups and that is how many prices we would have. Another well known system is called Disease Staging which contains 1600 entries. Instead, the government chose DRGs which at their inception contained 383 groups but now have 467. A good question is why the government looked for a classification system at all. They could merely have put a price on each diagnostic entry in the International Classification of Disease code book (ICD-vol 9). That is the book used by all medical record departments for coding our charts. This would have been an attractive choice. Remember that a retrospective bill essentially represents a unique record for every patient. Every patient's bill is as unique as their chart. It represents every little activity that a physician performs on, or for, a patient. It seems reasonable that the government would have gone to the code book pricing choice since that would have been appreciably closer to "uniqueness" than the 467 groups that they chose. Unfortunately, that choice is more complicated than it looks at first glance. For example, suppose a patient came in with a stomach ulcer. There would be a surgery and a no surgery price. Moreover, if there were two types of surgery there would now be three prices. If we then stratify prices for five age groups, there are now 15 prices. Finally, should the ulcer patient have diabetes or some other kind of condition that would affect treatment, we would have another 15 possible prices. So you can see, with 10,171 code book entries that system would have moved more and more towards a very complicated set of prices ultimately giving us rooms full of price books! And that is why we got to a system such as DRGs.

DRGs is a very slick classification system. However, there are some significant issues to be aware of that will help in understanding some of the inequities you will run up against. First, DRGs were not developed for pricing. The system was developed at Yale in the mid 1960's for utilization review. Because it was used for utilization review, the characteristic that "relates" the various diagnoses is length of stay (LOS). But remember, though LOS is the binding variable, it is prices that comes out the other end. Because of that there must be a translation of length of stay to resource use if the system is workable. It turns out that length of stay ostensibly accounts for 60% of prices. It is not linear but in a simplisitic form it is reasonable. Also, the government wanted to work with a system with a small enough number of groups to be manageable. As I mentioned, the new DRGs contain 467 groups. Finally, they needed to use a system that had been used and accepted elsewhere. The background for this point was a demonstration project that started in New Jersey in 1980 and has been running about 3 years. Does that system work? There has not been a whole lot of information out of New Jersey. I heard one physician talk about New Jersey DRGs in the most passionate terms. He was very concerned about quality of care under this new system. In the final 15 minutes of his talk, he became choked up when telling of patients poorly treated and being sent home before they were ready. On the other hand, hospitals in New Jersey have not closed, physicians have not left, and there has been no outcry from the patients that the system is poor. The only ones who purportedly left New Jersey were hospital finance officers. If the system works in New Jersey, why all of our concern? Well, when the government has a demonstration project, they often, perhaps unknowingly, sweeten it. The New Jersey project was non-punitive, had 30% outliers paid the "old way", had indigent care paid for, and had an infusion of capital. The federal system is not so kind. There is a need to take money out of the health care system and this new reimbursement method is designed to do so.

Now, how do DRGs work? The system takes 10,171 diagnosis and procedures and organizes them into 467 diagnosis related groups (DRG). The crucial first step in this aggregation is dividing these many entries into 23 Major Diagnostic Categories (MDC). these categories are by organ system and name as we physicians would prefer. Examples are MDC #1-Diseases and Disorders of the Nervous System -- MDC #2-Diseases and Disorders of the Eye -- MDC #3-ENT, and so for 23 categories. Each one of these categories has its own special DRGs, and most important, there is no crossing between organ system. If there is a three day, $3,000 stay for a nervous disorder, and a similar stay and price in the ENT category, even

though they are reimbursed at the same rate, they would never be grouped together. This rule that forbids grouping together different organ systems is important in making the system tolerable.

I will use MDC #11, Diseases and Disorders of the Urinary Tract, as an example--all of the DRG breakouts are developed in the same fashion. Of the 10,171 code entries I previously mentioned, MDC #11 contains 480 of the total--350 are medical diagnoses, and 130 are surgical procedures. In the DRG system, medical treatments are grouped in the medical partitioning, and surgical procedures, even though they are performed for a medical problem, are grouped under the procedure. Acute Cholecystitis could be in a medical DRG if treated medically and be paid at one price, or be in a surgical grouping paid at one price, or be in a surgical grouping paid at a different price if the gall bladder was removed. If one were to review the 480 entries in the code book, it would re-educate us about the myriad of things that can happen to a patient in that MDC. The code book is all inclusive--it contains may things you have never heard of very often in language that you've never used!

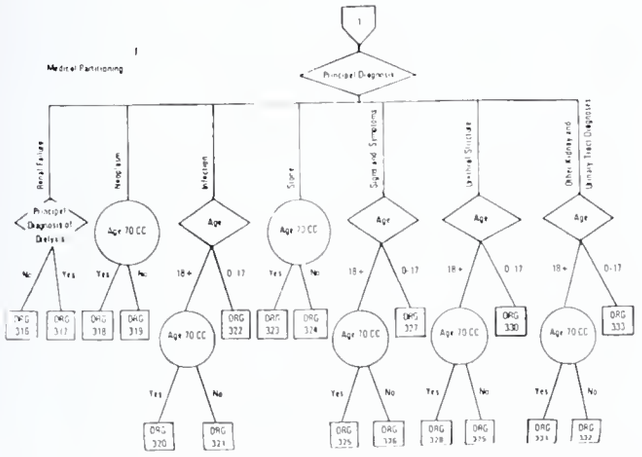

Fig. 1 -- Decision tree for MDC #11, Medical partitioning. Note the patient characteristics (diagnosis, age, etc.) that are applied to each diagnosic limb. Where there is branching, there is affect on LOS.

The medical partitioning of MDC #11 can be used as an example (Fig. 1). The first step in developing the DRGs is to partition the patients by principal diagnosis--examples are renal failure, neoplasm, and infection. These medical groupings, which you see can contain numerous members (for example, the renal failure grouping might contain any diagnosis leading to renal failure whether it be nephritis, arteriosclerosis, or inflammatory disease) have statistically derived average lengths of stay (ALOS). A variety of patient characteristics are applied to these groupings to see if there is an effect on LOS. If so, there is a branching into another DRG which is paid at a different rate. The statistical system is regression analysis which looks for variables that affect LOS. In common Language, what is done is a search for predicting variable (example-age, sex, payor class, etc.) that statistically affects or predicts LOS. In statistical language, the predicting variable is called the "independent variable" and the predicted one called the "dependent variable". In the DRG system, the dependent variable is LOS. After nationwide statistical sampling, the independent variables are:

a. whether there was major surgery
b. the principal diagnosis
c. patient age
d. age over 70
e. presence of a complication
f. presence of a co-morbidity

A complication in this system is when a patient with pneumonia has a myocardial infarction--when something happens during the admission. A co-morbidity is when the patient brings some other disease in with him, for instance, the pneumonia patient having diabetes. Both of these make the patient stay longer--they affect LOS.

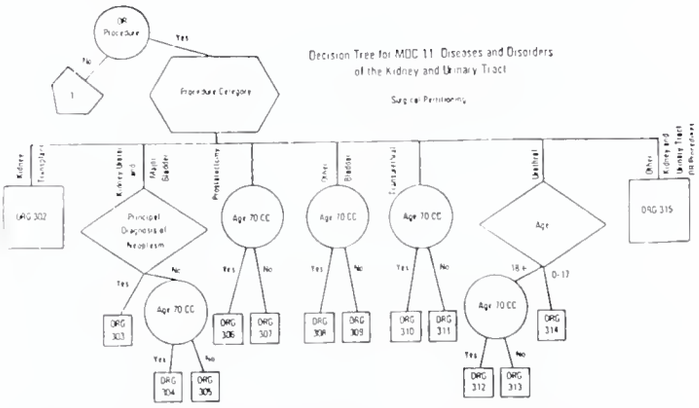

Fig. 2 -- Decision tree for MDC #11, Surgical partitioning. Note particularly the grouping- Kidney, Ureter, and Major Bladder Surgery. There are three DRGs that emanate from the original limb.

I think it worth a little more explaination to show how these branching trees (decision trees) are formed. I will use the 130 entries in the surgical procedure portion of MDC #11 (Fig. 2). If a representative group of procedures is initially arrayed by LOS, the 130 procedures fall into natural partitions:

3 day-procedures on the Urethra
5 day-Procedures on the Bladder
8 day-More Significant Bladder Surgery
12 day-Surgery of the Kidney, Ureter, and Major Bladder Surgery
24 day-Kidney Transplant

Following this initial partitioning, each group is expanded by going back to the code book to find any procedure amongst the 130 that fit. For example, the 12 day group contains 64 different surgical procedures. In this group of 64 are diagnoses as diverse as an aorto-renal bypass and a total cystectomy--different surgical specialties, different

training. From a physician point of view, the groupings have to do with resource use. Do not look for medical sensibility in the groupings!

I stated that there were only six independent variables, but we all know patients who go straight to the ICU stay longer, alcoholics stay longer, and the poorest people seem to stay forever.

We all know that, but those are all anecdotes. PPBR is a statistical system. It is based on thousands and thousands of patients from across the country. Only the six variables I noted count in this system. Now, back to the 12 day group--Surgery on the Kidney, Ureter or Bladder. A principal diagnosis of malignancy causes the group to branch. But, with this system, the definition of a malignancy is not very precise. It can be a benign tumor as well as a malignant tumor and that is important to realize. If the patient has a malignancy we walk into the room with doom and gloom attitude. If he has a benign tumor he has a good life ahead of him and our attitude is much different. The fact is, if you do a nephrectomy for a malignant tumor or benign tumor, it is the same procedure. It is the same operation, recovery room time, postop time, and resource use. It is a funding system, not a medical system. That is why it does not matter whether the tumor is benign or malignant.

The major kidney, ureter and bladder surgery group ends up with three DRGs, #303, 304, and 305. What is a 305 (follow on Fig. 2)? A patient comes into the hospital, has something wrong with his kidney and urinary tract. He is going to have a surgical procedure and it will be Kidney, Ureter, or Major Bladder surgery which contains 64 different procedures. He is going to have one of the 64 procedures but he does not have that procedure for a malignancy. If it were for malignancy, he would be in DRG #303. But, he has it for another reason, such as infection or trauma. He is under 70 and did not have a co-morbidity or complication (CC), therefore, he is in 305 rather than 304. But note, **each of these DRGs contain the same 64 procedures.** It is the patient characteristics, principal diagnosis, age, complication, etc. that change length of stay. Because of that length of stay variation, the government gave a different price for each of these. That is what is important to realize, 303, 304, and 305 contain the same 64 procedures. Also, DRG 306 contains all of surgical techniques for prostatectomy, paid at the same rate (if the patient is greater than 70). If the patient is less than 70 the DRG is 307 and that is paid at a different rate because age affects the length of stay. Note, that the prostatectomy group remains the same. DRG 308, minor bladder procedures, contains 38 different procedures for patients whose age is greater than 70. If the patient is less than 70 the DRG is 309 and it is a different price. **The items that change in DRGs are not procedure groups but patients having different characteristics.**

Another example is DRG #209, major joint surgery. Number 209 has no branches. What does that mean? It means that it does not matter whether you do major joint surgery on a 5 year old or a 95 year old, whether it is for malignancy, trauma, or infection, it is the same price. It is astonishing to think about the size and variation of the population in such a procedure group.

That is the system that the government took. It appears to be a simple system. The variables are objective and they should all be on the face sheet in the medical chart. They are simple for a coder to extract as they take minimal medical knowledge, only basic skills, and uncomplicated data. For that reason it should be simple. Of the six, age and age greater than 70 are usually correct. That is because those are filled in by the admitting office. The bottom of the face sheet is the physician part of it and we've never done a very good job of filling in accurate data. Unfortunately the government did not ask physicians which part of the chart should contain the information. In the chart, the least important thing to physicians is the face sheet. We use the discharge summaries and the operating notes. Unfortunately, the government has put in the system that has made face sheet data crucial. Because of this, physicians have a major behavior change to go through to improve those data points.

Although there are many problems with this system, DRGs do create data and because of that a hospital can find out about themselves. At Stanford we thought all or our patients were tertiary care patients. People always had trouble remembering a simple case. It turned out that 20 DRGs contain 37% of the patients. As a matter of fact 50 DRGs took care of 65% of the patients. On the other hand, we had patients in 460 of the 467 categories. The commonest thing we do at Stanford is deliver babies. The second most common procedure is a coronary bypass. If you go through the list you will find that we are predominately a heart hospital and we do a lot of cancer work. But, we have a big community type population. None of the faculty ever realized the community physicians were so crucial to our hospital census.

I mentioned earlier that the departments heads have some behavioral attitudes about being revenue centers and cost centers. Some doctors are also revenue centers and cost centers. The OB Docs never generated much hospital revenue-- it was the cardiac surgeons that did it all. Because of that they got what they wanted just like the revenue centers do. But remember, once the price is set the effort is to drive utilization down. We may have to go to the cardiac surgeons to pare down some of their in-hospital activities.

There are many problems with the DRG system. The major one is that variation in sickness is not considered. Some patients are very expensive

usually because they are "sicker". They are sicker and this is a system that has no variables that reimburses for degree of sickness. The independent variables are the ones previously explained. Sickness is not considered--the system assumes that patients are average. That is a big problem for hospitals that take care of sick patients.

How could we have a system brought to us that does not include sickness? Senator Schweiker made a statement when he introduced the system. He was concerned that a heart attack could be treated in one hospital for $1500 yet in another for $9,000. The same diagnosis with this great disparity in price. You see what the mentality is. He seemed to think that heart attacks were all the same and should be priced the same. I guess he will find out when he has his that one heart attack is surely not the same as another heart attack. You don't have to go to two hospitals to learn that--you can go to the same hospital and find the difference. On the other hand, if a similar procedure on a similar patient costs twice as much in one hospital as another, that is a different issue.

The system assumes that patients are similar, but patients are not the same. The system looks at very simple data points--stable blood pressure, simple vital signs, oral fluids; it does not pay if patients in the same DRG are unstable and have vital signs hourly, IV's or input and output measures. These are things that we routinely do. I hope it is understood that these variations in orders are expensive. You need to know how orders are priced out in the hospital. Vital signs are counted by a clerk who multiplies the number of times they need to be taken times an appropriate time measurement (say 10 minutes). When that equals eight hours you get a nurse or whoever might do the vital signs on the floor and the cost increases. If you write for vital signs two times a day instead of four times a day you take 20 minutes worth of cost out of the system. These are expensive orders. You cannot write orders for services you don't need.

The system does not pay for things like vertigo, pain or abnormal tests. Patients are paid for on an average. If a patient stays longer because of one of these factors, the hospital does not get paid any extra. Patient variation is "our problem".

I want to spend a little more time on sickness because it is such a crucial issue. When we did our Medi-Cal negotiation with the state of California, we wanted to get the highest price possible since we knew our patients were very sick and therefore very expensive. We also knew that every hospital was going to come in and tell the negotiator that their patients were very sick. We decided to do a very comprehensive study of our Medi-Cal patients using one of the subjective classification systems that include sickness. The one we decided on is called "Severity of Illness" Indexing. Here are the results of that study (Fig. 3). There were a large group of patients (533) and they utilized a lot of dollars, $4,000,000. First of all we thought our Medi-Cal patients were our worst patients and we thought we had a lot of them who were real sick. It turned out that we had 9% of severity level 3's and 4.9% of level 4's. So for the 533 patients most

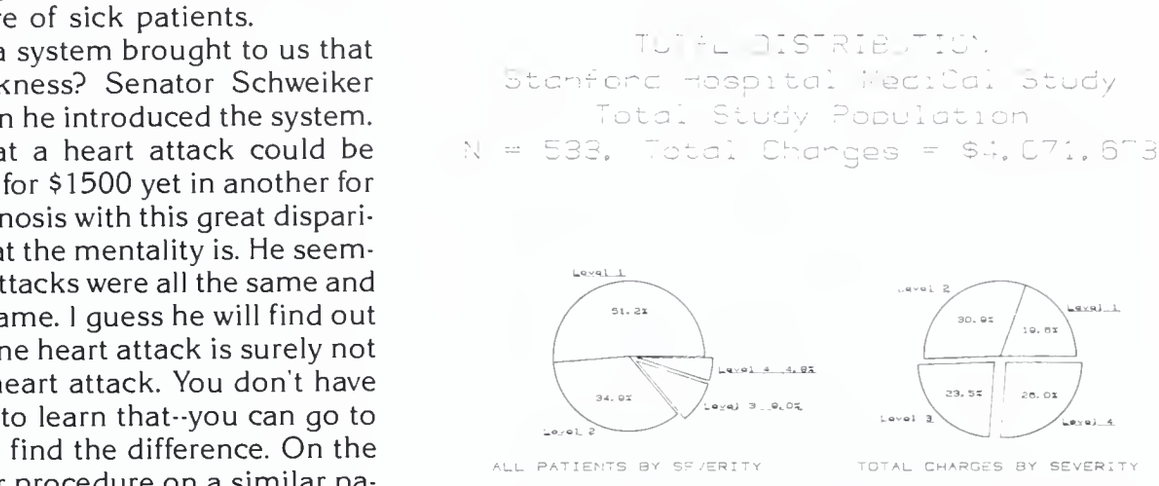

Fig. 3 -- Severity distributions versus charges per severity group. It is important to realize how resources vary by severity number.

were 1's and 2's. But most important, **the 13.9% that were level 3's and 4's used 52% of the dollars.** That is the problem. You don't need a large group of sick patients to gobble up dollars. The sicker patients will use inappropriately large amounts of resources and ultimately drive you down under a fixed reimbursement system.

Now, back to more details on prospective pricing systems. We have two single rate, per diem contracts at Stanford--Blue Cross Prudent Buyer and Medi-Cal. Since they are per diem payment systems, if patients stay longer because they are sicker or more complex, we get paid more. Even so, the goal is to get inexpensive patients and to exclude the expensive patients under a per diem system.

DRGs are better than a single rate system. DRGs give you 467 rates. If you get the more complex admissions you get paid more for them. Under the single rate system, once a price is reached should you get more heart attacks that newborns, you are in trouble because they are paid at the same rate. You want the deliveries. You don't want heart attacks because you get the same payment as you would for the easier diagnosis. DRGs have 467 rates--you get more for a heart attack than a newborn. You do get paid for complexity **but it does not pay you for severity.** The goal again is to get less expensive patients.

Hospitals have to take money out now. But remember, they have been shifting costs for 25 years and now they want to take costs out. Where is the cost?

Essentially, no hospital knows where the costs are. That is the real problem for hospitals. Rapid moves to take out costs without understanding

where they are could lead to financial disaster. For example, if we physicians would decrease our ordering of CBCs that patients pay $20 for, it would mean a loss of $20 in revenue, not a savings of $20 in expense. It may be that the CBC only costs $2 -- but because of years of cost shifting, the CBC now delivers more dollars than necessary to pay for its cost. Hospitals don't know what anything costs because of this cost shifting. Meaningful cost cutting must take this into account.

At the same time hospitals must take money out, they have to put money in. Two areas that will need special care are medical records and utilization review. There is only one revenue center under prospective reimbursement and it is medical records. The quality of coding is what gets reimbursement now. There needs to be money put into medical records to improve the quality of data and better chart handling. The other area that needs money infused is the utilization review section. Utilization review is important because every day eliminated from a hospital day saves an enormous amount of money.

A major issue raised around this new reimbursement scheme is the perceived fear that physicians be concerned and become involved? Our stake is to continue to be able to do what we want to do in the hospital the way we always have. If the hospital does not make it there will be services cut away. We need to keep quality up and we want to help to get prices affordable but we will have to work with the hospital to do it.

Physicians are going to be part of the system soon. You may know, 1985 is known as the "year of the doctor" in Washington. That is not related to a centennial celebration, but rather to the ten years that the govrnment felt they needed in 1975 to "get their hand around the doctors". There is no sympathy that we are underpaid. As you know there are two pieces of legislation before the government now that will markedly affect MD reimbursement--one is to freeze usual, Customary and Reasonable charges as of July 1 of last year and the second one is to mandate assignment. According to one national newspaper, those two changes will deliver the government $100 million dollars in fiscal 1983-84 and $600 million in fiscal 1984-85. Under these changes the government would merely discount prices, and you would sign on if you wanted to take Medicare patients. That may not sound like too good a choice, but I think that may be the best case we have. The second possibility is they will pay by DRG. For example, they would pay the same price for all 64 procedures in DRG 303, 304, and 305. Thus, there would be similar professional fees for an aorto-renal bypass and a total cystectomy--two members of this diverse group.

The third proposal, which is probably the most likely, is to include the physician fee in with the hospital fee. Senator Durenburger has said he would prefer an organized group of physicians to get the fee and then negotiate with hospitals. However, if that arrangement is not possible, a hospital could get the total reimbursement and negotiate with physicians. Either way, a total fixed fee would be split between hospital and physicians. At first it will not be the doctors fighting with the hospitals over the money. Rather, it will be doctors fighting with doctors because that single physician fee has to be split among surgeon, anesthesia, radiology, pathology, and any other doctor who took care of the patient. What is the fair way to split up these funds? The American Society of Internal Medicine just put out a document that said they felt cognitive services should be paid at least as much as procedural services. Somebody has stated that they thought the American Boards should make the split. Can you imagine the American Board of Surgery sitting there deciding how much they want to give to the American Board of Internal Medicine? On the other hand, why does the government like this system that will be so adversarial? They want hospitals costs driven down and the best people to do it are the physicians.

We certainly do have to cost contain but before we physicians do very much, the hospital will have to make sure that most dollars are going for patient care. They need to make sure that physicians are involved whenever money is being spent for hospital activities less clearly directed. You cannot replace rugs, remodel offices, or construct a new building when you are telling doctors to stop doing tests. There needs to be congruency in hospital/physician direction.

As for direct physician actions to take money out of the system, there is some short term money that can be taken out by doctors that is easy money. There can be evalutation of standing orders and pre-printed orders; generics can be utilized instead of trade name drugs; we can scrutinize our nursing orders, particularly those that may not be so crucial to quality care. There are dollars that may not really affect anything. You can take care of a patient, not decrease quality, and make the system cheaper.

But, after you take those dollars out you are going to have to modify care. The question is whether that is always bad. Most of us use the same methods of therapy we used twenty years ago. The system works, why should we change? **If there is a less expensive way to treat a patient, and quality of care and patient care outcome is unchanged, we are going to have to learn the new way!** It may take meaningful CME, but we're going to have to do it.

Let me reiterate, we physicians have a great stake in making the system work now, well before we are directly involved. Has anyone told you that you can't put a patient in the ICU or you can't dialyse

a patient? Does the administration come up to you and say "don't do that anymore, we can't afford it"? Could that happen?

The government may say to stop treating patients in the ICU that have multiple organ system problems. They say those are the most expensive patients in the hospital. Why are you wasting the dollars? Who are those patients? Those patients are the older patients from nursing homes. They are postop COPD patients. They are cardiac patients with complications. Their likelihood of survival is small, and their productivity when they leave the hospital is smaller--they are the patients that the government says "don't treat". I would suggest that it is a long way from **them telling** us not to treat a patient to a **physician telling** a patient he is not going to treat. If they want to come out to try that on one of the patients I think they may change their attitude. You can do that from 3,000 miles away because it sounds cost effective, but also because it's so impersonal. It is not unlike dropping bombs on a village when one doesn't have to see the faces.

Finally, what are the immediate impacts on the hospital and the physician.

1. "What you code is what you get"-That is the byword of this system. That statement has led to the ascendancy of the Medical Records Department. Rather than be in the basement as departments are in many California hospitals, medical records departments in New Jersey are upstairs, next to the executive offices and every day the hospital administrator and the medical record historians review those face sheets. That is how they get paid and they want to make sure their charts are accurate. Remember, we have only been dunned to dictate and sign our records. No one has really looked at the quality of our records or their level of completeness. Timeliness was always the major problem. Since our dictation and progress notes are what supplies medical records with data, we will have to do it better.

2. Principal diagnosis-Some of you have already learned about this thing called principal diagnosis. It is neither admitting, discharge or primary diagnosis. It is the diagnosis, after reflection, that best represents why the patient was admitted to the hospital.

Here are some examples of this new "diagnosis". Suppose you admit a patient to the hospital with a ureteral stone and during the IVP an aortic aneurysm is found. The natural attitude of the physician is to advise the patient to have the aneurysm repaired. If the size of the aneurysm indicated early repair, the physician would probably suggest repair during the same admission. Under this new system that patient will not automatically be recoded as aneurysm repair because, after reflection, it was the ureteral stone that caused the admission, not the aneursym. They don't want you to do the surgery during the same admission. They want you to send the patient home and then readmit him. Why is that? It seems more expensive. Well, not all the patients will come back. Some of them will go to another doctor and he will say, "Don't do the surgery." Some of them will go back to work because they can't get the additional time to have surgery, others will come back and get their lab work on the outside. No matter how you cut it, it will be cheaper for the government. They don't want you to "prospect" for anything.

Here's another example. A patient is admitted with shortness of breath, has a clinical and laboratory diagnosis of pneumonia. During the admission, he develops a myocardial infarction and stays thirty days. Even though the myocardial infarction was the diagnosis that used most of the resources, after reflection, the reason the patient came in was pneumonia. He is a pneumonia with a complication. You will lose money on that patient. You want that patient to go home and have his myocardial infarction. It would take a second admission you get two DRGs! The system is not fair. Don't look for fairness in it. Remember, the government is trying to take money out of the system. A third example: A patient comes into the ER and has a concussion, fractured femur and liver laceration. The fracture is reduced, the liver is repaired. There are different prices that go along with those principal diagnosis. Which one should you choose?

Concussion	$1700
Fractured Femur	$4000
Liver laceration	$5000
Fractured Femur, reduced	$6000
Liver laceration, repaired	$8000

Remember, you have to attest to the accuracy, therefore, when you sign off on the face sheet you are agreeing with the principal diagnosis. Of course, you should choose the principal diagnosis that is correct, but also the one that delivers the most reimbursement. This process is legitimate and hospitals must maximize their reimbursement. This represents a concept that has been described by Dr. Don Simbors, as "DRG Creep". He felt that hospitals would improve their data and move their prices up to the highest level possible. He predicted correctly. This is a system that lets you maximize reimbursement and you must. One might ask how can the government save money if all hospitals are going to maximize? Well, the government was probably aware that such an event might happen. They built into the system a safeguard called "budget neutrality". It allows the government to not pay any more under prospective reimbursement than they would under the old system. All they would do is multiply the increasing prices which hospitals are going to come up with by a number less than 1. The final figure will be the same total revenue they wanted to pay before. That means more than ever you have got to maximize your dollars because if

RISK MA

The Medical Record: Shield, or Sword of Damocles?

"The weakest ink lasts longer than the strongest memory." (Proverb)

To the physician concerned with minimizing potential medical malpractice claims, the medical record often provides the simplest and most economical defense. When reasonable medical care has been delivered, a properly prepared medical record serves as a virtually impenetrable barrier between the doctor and the angry allegations of negligence from an unhappy patient. Because the law is concerned with evidence and not truth, however, plaintiff's attorneys see dollar signs when they see poorly prepared medical records: ambiguity, incompleteness or frank error rapidly translate to greenbacks at the settlement table or at trial.

Physicians must bear in mind that they may not be called upon to testify in a given case until many years have elapsed from the time the patient was seen. In New York City, for example, cases are not brought to trial until approximately seven years after the suits have been filed. In Alaska, a child may wait until he or she reaches the age of majority before bringing suit alleging negligence in, say, prenatal care. The suit may then take years to get to trial. What physician is likely to remember the not-unusual matters of medical practice which transpired 18 or more years ago? The law is stern: if a physician's records do not contain information on a particular point, and if the physician does not have a solid recollection of that information, then the patient's version of the information will be accepted as the only evidence on that point. If the needed information is central to the physician's defense, the physician will lose the case.

Medical records must be recorded and stored with care. They must be prepared as close to the time of the events recorded as is reasonably possible. One Alaska physician was sued for malpractice after an adverse result following a surgical procedure. The procedure was one which resulted in 1% to 5% of patients suffering that adverse result, even in the absence of negligence. The surgeon did not dictate a formal note until the following day, possibly after learning of the presence of the adverse result. The trial court indicated that "careless habits of record keeping should be viewed as badges of suspicion." The trial was four years after the surgery. Because the physician had no independent recollection of the procedure at the time of trial the court found that he could not produce facts to refute the claim of negligence. The physician lost the case--not because he had actually been negligent, but because he could not produce evidence to show that he had been free of negligence. In our system of justice, the truth is irrelevant--it's the evidence which counts. Medical records should be prepared so that they will provide that evidence.

In theory, the office records of a private practitioner belong to that doctor, and not to the patient. In fact, it is usually unwise, and almost always impossible, to prevent a patient from gaining access to the medical record. Withholding a patient's chart in an effort to coerce payment of a bill often results in patient unhappiness, and a subsequent claim of malpractice. No court will allow withholding of a medical record in order to defeat a patient's claim of malpractice. For these reasons, it is sound policy to assume that at some point a court may order that a patient be given reasonable access to the material in the medical record.

Physicians should be tactful about what is written in a medical record; grossly inaccurate statements may lead to a suit for libel, even though quality medical care had been provided. Consider the plight of the doctor who writes (as did one doctor who belatedly approached me for advice), "I think this patient is gay." If the patient is bisexual, and the chart is read by somebody other than just the doctor, the physician may be liable for defamation, and may not have a viable defense to the suit. It is far wiser for the physician to merely record relevant facts, leaving the conclusion for the reader to draw. In the example just given, had the doctor written, "patient denies homosexual activity", no grounds for suit would have been presented.

"careless habits of record keeping should be viewed as badges of suspicion"

Even if all of the information in the chart is accurate, the doctor can be held liable for damages if he or she releases medical information about a patient without a patient's consent. Unless the physician is making a report required by statute or administrative regulation, it is wise for the physician to first obtain a consent for the release of medical information. Such consents should be in writing, should be dated, and should state to whom the records are to be sent. They should indicate the nature of the records to be released (i.e. "all medical records regarding my low back injury"). They should, of course, be signed by the patient or the patient's guardian.

Sometimes it is impractical or even impossible for a physician to obtain written consent to release records. In such cases, the doctor should obtain the verbal consent of the patient, since consent in some form must always be obtained prior to release of the information. The doctor should promptly make an appropriate chart note.

For a medical record to be helpful, it must be available. Doctors who send original records--such as X-rays--out of their offices, imperil their ability to successfully defend themselves against future claims for malpractice. Courts will, of course, be sympathetic to the physician who courteously sent a patient's X-rays to another doctor's office, where they became lost. Sympathy is no substitute for evidence, however, and it is evidence which wins cases. Whenever possible, a copy of the record should be sent. If an original must be delivered, a messenger should hand-carry and return it.

Physicians should bear in mind that the appearance of the medical record may be as important as the substantive information it contains. A record which appears to have been altered will be suspect, even if the "alteration"

AGEMENT

was the most innocent correction of a simple spelling error. If a physician obliterates a word, thereby making it impossible to be read, that doctor may be terribly embarrassed before a jury during cross-examination. "Doctor, it is true, is it not, that you deliberately and with the specific intent to do so, rendered that word incapable of being read? You are now telling us that while you can't read the word, and can't recall the word, we should just believe you when you say that it was probably a spelling error you were trying to hide?"

If an error is made while preparing a medical record, a single line should be drawn through the erroneous portion, the record should be dated, initialed, and the reasons for the alteration given. This rule, if followed, will insure protection for the physician, but requires an enormous amount of compulsiveness. A doctor opting not to follow this rule would do well to date, intial and explain any changes made if there is even a remote chance that the change might appear to be for improper reasons. In any event, a physician should NEVER render a prior entry incapable of being read.

If a judge or jury learns that a record has been deliberately altered for improper reasons, the physician will thereupon immediately lose the case. It is as simple as that. Even if the physician had a solid defense on the merits, the case will effectively have ended. The only question left for determination will be, "how much?" This point cannot be over stressed. Consider the following example, taken from a case I had several years ago:

A patient went to a physician's assistant, complaining of chest pain. An ECG was obtained, but no interpretation was recorded. The following day the patient returned to the PA, this time complaining of crushing chest pain and diaphoresis. A second ECG was obtained. The PA did not record an interpretation of this ECG either, but medevac'd the patient to a city where the patient could seek more advanced medical care. The patient saw an internist, who again obtained an ECG. The internist told the patient that the discomfort was of gastric, not cardiac, origin, and sent the patient home. The patient returned the following morning, told the doctor that he was having a "heart attack", and insisted that the doctor send the patient by ambulance to a local hospital. The doctor obtained a fourth ECG, then--only to appease his angry patient--requested an ambulance to transport the patient to the hospital for admission. While awaiting the ambulance, the physician wrote "Normal tracing" on each of the ECG's. He copied the tracings on his office copying machine, and sent the originals along with the patient.

After the patient was admitted,

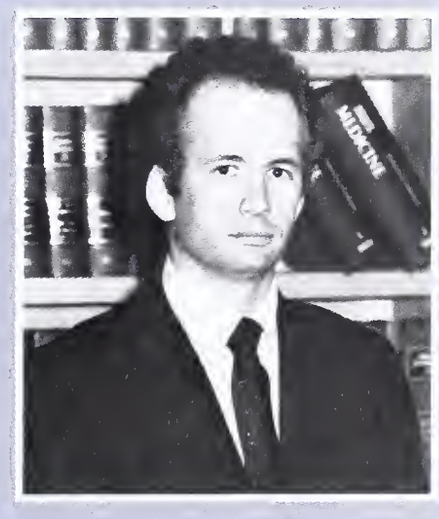

PHOTO BY CHRIS GIBBS

laboratory data indicated that the patient was indeed having an MI. After arriving at the hospital, the physician altered his prior interpretation by attaching the prefix "Ab" before the "Normal" on each of the tracings. The result was that his interpretations began "AbNormal tracing". The doctor then added some additional interpretive remarks.

Because the doctor did not alter the copies he had retained, a discrepancy existed between the hospital and office records. In the normal course of case preparation, I obtained both sets of records. At that point the case lost any significant resemblance to a malpractice case, and appeared to be straightforward Watergate. The physician had cheated. Perhaps his motives were pure; still, he had cheated. Had the case proceeded to trial on a question of negligence, the physician simply could not have won--even if a bevy of cardiologists had been available to testify that his first interpretation had not been unreasonable. The doctor would have had a viable defense had he written, say, "Above interpretation possibly in error, in light of laboratory results. Possible inferior subendocardial MI." Instead, he had cast doubt upon the validity of all of his entries in the record, upon all of his opinions, and upon his personal trustworthiness. Such conduct is a dangerous form of foolishness.

The medical profession has earned a position of high privilege in our society. Our social institutions, such as courts, will not tolerate an abuse of that privilege. When an allegation of professional wrongdoing has been made, the physician will be required to respond with evidence to rebut the allegation. Because the demand may come years after the conduct complained of, only accurate, written information recorded as close to the time of the occurence as was reasonably possible can form the basis for the physician's defense. Courts will expect physicians to produce such evidence. They will scrutinize a doctor's verbal and written evidence for accuracy and trustworthiness. If the evidence shows that the medical care had been reasonable, the doctor will prevail. A good defense lawyer can smooth out a lot of rough spots in the case, but none can erase a stain of dishonesty.

Lee S. Glass, M.D., J.D. — has addressed numerous groups on risk management. Most recently he addressed the International College of Surgeons and the Department of Orthopedics, University of Washington School of Medicine. Glass practices law with Faulkner, Banfield, Doogan & Holmes in Anchorage and Seattle. He is also obtaining postgraduate medical training at the University of Washington.

you are a hospital that doesn't do so, you will be very badly hurt. You have to do it and you have to learn how to do it. It is a payment system allowing us some latitude. Good hospitals are going to learn how to work with the system.

3. What to do with costly physicians--We review physicians who have had morbidity and mortality problems, excess incident reports or whose behavior suggest some evidence of impairment. Have you ever reviewed a medical staff member who has good outcomes and good lengths of stay but who spends too much? Who even knows who those guys are? We have never reviewed them. Who has cared? What was important was the patient got out in a reasonable length of stay and did well. You **must** start reviewing those physicians, because even though results are good, you have got to find out why they are spending more. The additional problem is what to do with a costly physician. How do you manage such problems? We don't want the Hospital Board to have the right to throw a costly physician off the staff. But, you do want the Medical Staff to be able to monitor him. It is hard to put that statement in the medical staff bylaws. You would have to say, "Doctors who spend too much can be suspended" and you know the likelihood of passing that. We are all going to have to solve that problem in a tolerable, non-adversarial way.

4. Money must come out of the system-the government designed this new system to achieve that final result. Unfortunately, society feels health care is fat, doctors are fat and the whole industry has been wasting money. Because of this, a new system has been introduced that is designed to take money out of the system with little regard to societal habits or physician issues. **There will be no decrease in demand.** As a matter of fact there will probably be increase in demand because of the aging population. **There will be no decrease in expectations.** You only have to talk to a medicare patient and tell him that you are going to cut out services. He will give you a little lecture about his social security payments while he was working. **There will be no decrease in technology.** The technology dollars come out of a different bucket. New and exciting technologies are upon us and there may be limited funds to purchase them. **There is no safe harbour for law suits.** No where in the legislation is there protection if you don't practice protective medicine. **There are no savings related to decreased regulatory requirements.**

There is no sense that services will decrease. The sense is that we can do it for less and the demand is to take a lot of money out of the system. To do it hospitals and doctors are going to have to work together. Doctors never feel that taking out funds is any problem. We would get rid of all the administrators (the nurse managers go first), all the janitors and close the cafeteria. Rugs would not get replaced. Preventive maintenance would be unheard of. We see the hospital very simplistically. On the other hand the hospital administration cannot remove adequate funds either. They don't know which labs are important. They don't know which services we can do without. They cannot make patient care decisions.

There is a real sense that hospitals that survive will be the ones that learn to work with their doctors. The ones that fail will not achieve that relationship. Perhaps the real message here is that this is a time for the medical community to start working with hospital administration to make the hospital survive--it certainly seems to be in all our best interest.

James F. Silverman, M.D.
Chief of Staff, Stanford University Medical Center
Stanford, California

re prescribing, see complete prescribing information in F CO. literature or *PDR*. The following is a brief summary.

ARNING

s drug is not indicated for initial therapy of edema or pertension. Edema or hypertension requires therapy ited to the individual. If this combination represents the sage so determined, its use may be more convenient in ient management. Treatment of hypertension and edema ot static, but must be reevaluated as conditions in each ent warrant.

traindications: Concomitant use with other potassium-ng agents such as spironolactone or amiloride. Further use una, progressive renal or hepatic dysfunction, hyperkalemia. existing elevated serum potassium. Hypersensitivity to either ponent or other sulfonamide-derived drugs.

nings: Do not use potassium supplements, dietary or other-, unless hypokalemia develops or dietary intake of potas- is markedly impaired. If supplementary potassium is ded, potassium tablets should not be used. Hyperkalemia ccur, and has been associated with cardiac irregularities. It ore likely in the severely ill, with urine volume less than one day, the elderly and diabetics with suspected or confirmed insufficiency. Periodically, serum K^+ levels should be deter-ed. If hyperkalemia develops, substitute a thiazide alone, ct K^+ intake. **Associated widened QRS complex or arrhyth- requires prompt additional therapy.** Thiazides cross the ental barrier and appear in cord blood. Use in pregnancy ires weighing anticipated benefits against possible hazards, ding fetal or neonatal jaundice, thrombocytopenia, other rse reactions seen in adults. Thiazides appear and tri-erene may appear in breast milk. If their use is essential, the nt should stop nursing. Adequate information on use in dren is not available. Sensitivity reactions may occur in nts with or without a history of allergy or bronchial asthma sible exacerbation or activation of systemic lupus erythe-sus has been reported with thiazide diuretics.

cautions: Do periodic serum electrolyte determinations (par-rly important in patients vomiting excessively or receiving nteral fluids, and during concurrent use with amphotericin B orticosteroids or corticotropin [ACTH]). Periodic BUN and m creatinine determinations should be made, especially in elderly, diabetics or those with suspected or confirmed renal fficiency. Cumulative effects of the drug may develop in nts with impaired renal function. Thiazides should be used caution in patients with impaired hepatic function. They can ipitate coma in patients with severe liver disease. Observe ularly for possible blood dyscrasias, liver damage, other idio-cratic reactions. Blood dyscrasias have been reported in nts receiving triamterene, and leukopenia, thrombocyto-a, agranulocytosis, and aplastic and hemolytic anemia have n reported with thiazides. Thiazides may cause manifestation tent diabetes mellitus. The effects of oral anticoagulants may decreased when used concurrently with hydrochlorothiazide; age adjustments may be necessary. Clinically insignificant uctions in arterial responsiveness to norepinephrine have n reported. Thiazides have also been shown to increase the alyzing effect of nondepolarizing muscle relaxants such as curarine. Triamterene is a weak folic acid antagonist. Do odic blood studies in cirrhotics with splenomegaly. Anti-ertensive effects may be enhanced in post-sympathectomy nts. Use cautiously in surgical patients. Triamterene has n found in renal stones in association with the other usual culus components. Therefore, 'Dyazide' should be used with tion in patients with histories of stone formation. A few occur-ces of acute renal failure have been reported in patients on azide' when treated with indomethacin. Therefore, caution is sed in administering nonsteroidal anti-inflammatory agents Dyazide'. The following may occur: transient elevated BUN creatinine or both, hyperglycemia and glycosuria (diabetic ulin requirements may be altered), hyperuricemia and gout, talis intoxication (in hypokalemia), decreasing alkali reserve possible metabolic acidosis. 'Dyazide' interferes with fluores-it measurement of quinidine. Hypokalemia is uncommon with azide', but should it develop, corrective measures should be en such as potassium supplementation or increased dietary ake of potassium-rich foods. Corrective measures should be ituted cautiously and serum potassium levels determined. continue corrective measures and 'Dyazide' should labora-y values reveal elevated serum potassium. Chloride deficit y occur as well as dilutional hyponatremia. Concurrent use h chlorpropamide may increase the risk of severe hypo-remia. Serum PBI levels may decrease without signs of thyroid sturbance. Calcium excretion is decreased by thiazides. azide' should be withdrawn before conducting tests for para-roid function.

iazides may add to or potentiate the action of other antihyper-sive drugs.

uretics reduce renal clearance of lithium and increase the risk lithium toxicity.

verse Reactions: Muscle cramps, weakness, dizziness, head-he, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, rpura, other dermatological conditions; nausea and vomiting, arrhea, constipation, other gastrointestinal disturbances; pos-al hypotension (may be aggravated by alcohol, barbiturates, narcotics). Necrotizing vasculitis, paresthesias, icterus, ncreatitis, xanthopsia and respiratory distress including pneu-onitis and pulmonary edema, transient blurred vision, sialade-is, and vertigo have occurred with thiazides alone. Triamterene as been found in renal stones in association with other usual alculus components. Rare incidents of acute interstitial nephritis ave been reported. Impotence has been reported in a few atients on 'Dyazide', although a causal relationship has not een established.

upplied: 'Dyazide' is supplied in bottles of 1000 capsules; ingle Unit Packages (unit-dose) of 100 (intended for institu-onal use only); in Patient-Pak™ unit-of-use bottles of 100.

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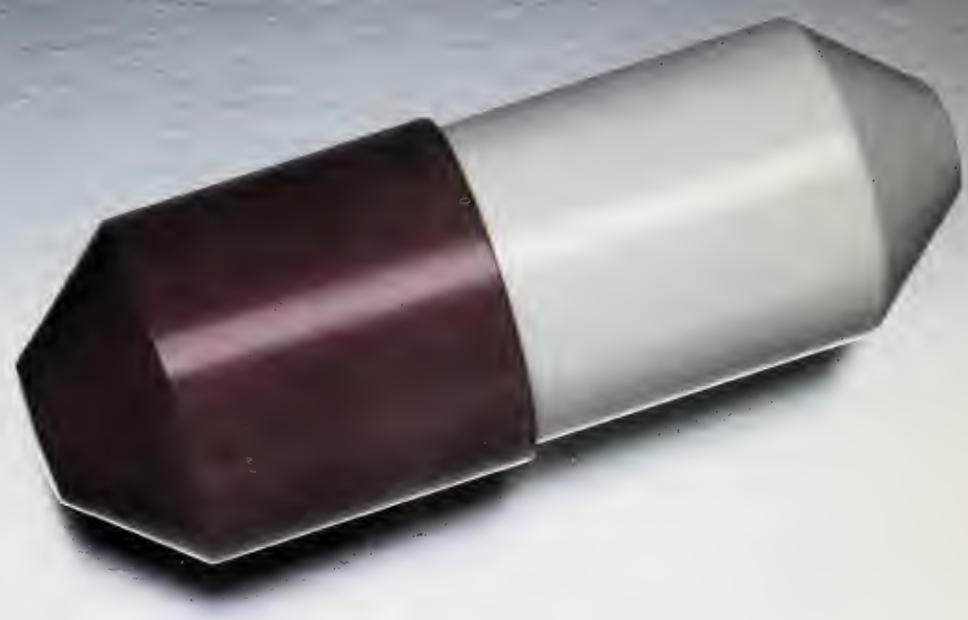

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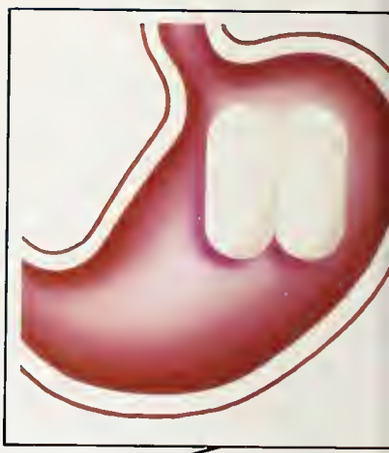

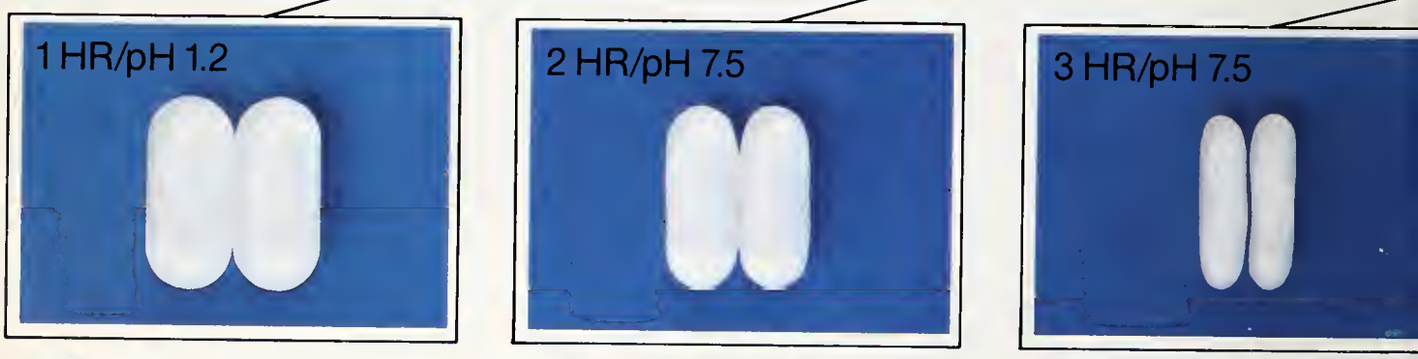

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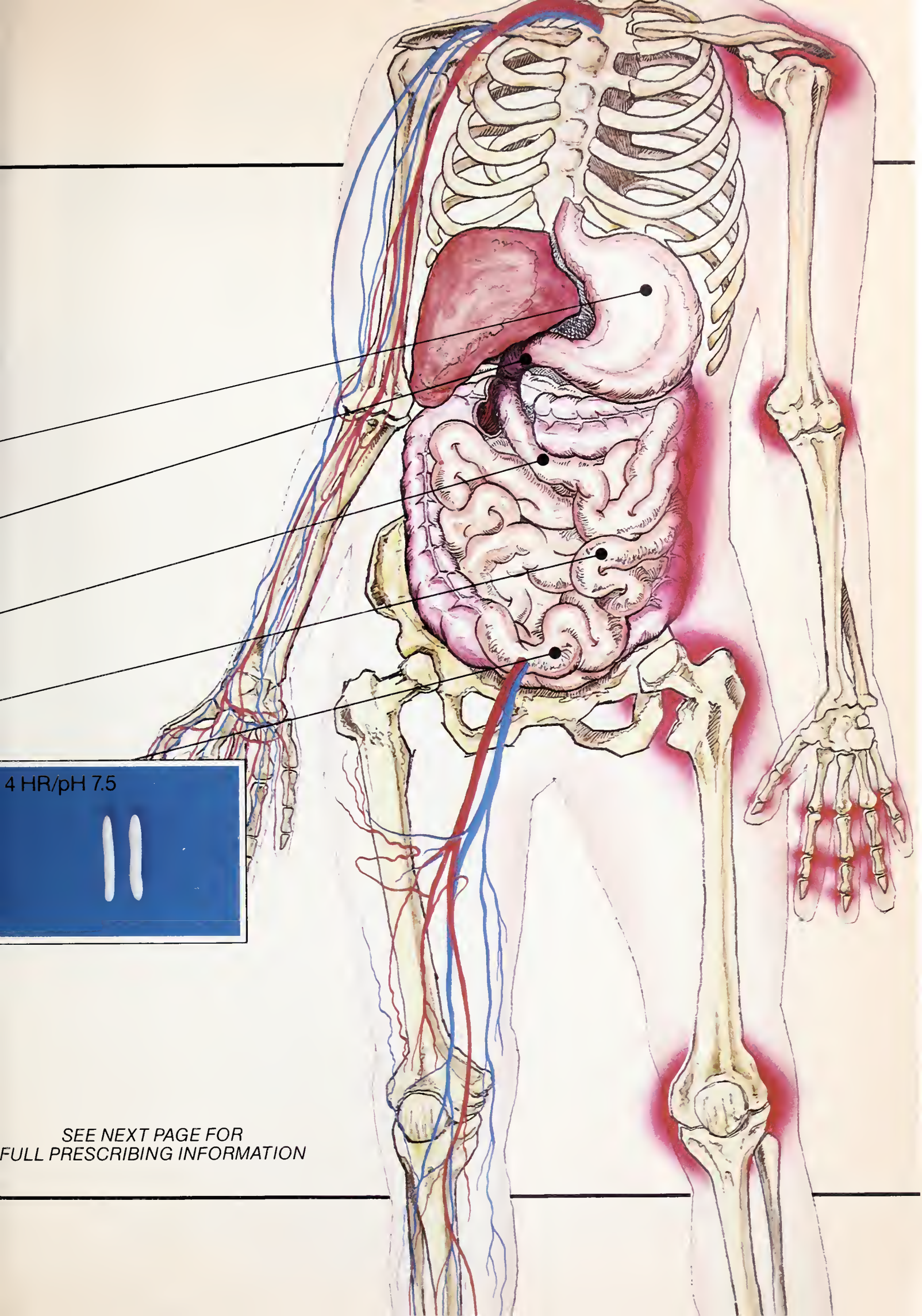
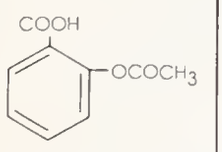


SEE NEXT PAGE FOR
FULL PRESCRIBING INFORMATION

ZORprin (ASPIRIN) Zero-Order Release

DESCRIPTION: Each capsule-shaped tablet of Zorprin contains 800 mg of aspirin, formulated in a special matrix to control the release of aspirin after ingestion. The controlled availability of aspirin provided by Zorprin approximates zero-order release; the *in vitro* release of aspirin from the tablet matrix is linear and independent of the concentration of the drug. □ **CLINICAL PHARMACOLOGY:** Aspirin, as contained in Zorprin, is a salicylate that has demonstrated anti-inflammatory and analgesic activity. Its mode of action as an anti-inflammatory and analgesic agent may be due to the inhibition of synthesis of prostaglandins, although its exact mode of action is not known. □ Zorprin dissolution is pH-dependent. *In vitro* studies have shown very little aspirin to be released in acidic solutions, whereas, Zorprin releases the majority of its aspirin (90%) in a zero-order mode at a neutral to alkaline pH. It is this pH dependence of Zorprin that reduces direct contact between aspirin and the gastric mucosa, resulting in a reduction of its gastrointestinal side-effect potential. □ Bioavailability data for Zorprin have confirmed that plasma levels of salicylic acid and acetylsalicylic acid can be measured 24 hours after a single oral dose. This substantiates a twice daily dose regimen. Multiple dose bioavailability studies showed similar steady-state salicylate levels for Zorprin as for conventional release aspirin using the same total daily dose. Long-term monitoring of salicylate levels showed no signs of accumulation once steady-state levels were reached (4-6 days). □ Studies of *in vivo* prostaglandin levels (PGE2) have shown Zorprin plasma levels of salicylic acid and acetylsalicylic acid to reduce PGE2 levels 14 hours after a single oral 800 mg dose while an equivalent dose of aspirin produced a reduction of PGE2 levels only through six hours. Zorprin's effect on prostaglandins other than PGE2 has not been determined. □ Salicylates are excreted mainly by the kidney, and from studies in humans it appears that salicylate is excreted in the urine as free salicylic acid (10%); salicyluric acid (75%) salicylic phenolic (10%); acyl glucuronides (5%) and gentisic acid (<1%). □ **INDICATIONS & USAGE:** Zorprin is indicated for the treatment of rheumatoid arthritis and osteoarthritis. The safety and efficacy of Zorprin have not been established in those rheumatoid arthritic patients who are designated by the American Rheumatism Association as Functional Class IV (incapacitated, largely or wholly bedridden, or confined to wheelchair, little or no self-care). □ In patients treated with Zorprin for rheumatoid arthritis and osteoarthritis, the anti-inflammatory action of Zorprin has been shown by reduction in pain, morning stiffness and disease activity as assessed by both the investigators and patients. □ In clinical studies in patients with rheumatoid arthritis and osteoarthritis, Zorprin has been shown to be comparable to conventional release aspirin in controlling the aforementioned signs and symptoms of disease activity and to be associated with a statistically significant reduction in the milder gastrointestinal side effects (see ADVERSE REACTIONS). Zorprin may be well tolerated in some patients who have had gastrointestinal side effects with conventional release aspirin, but these patients when treated with Zorprin should be carefully followed for signs and symptoms of gastrointestinal bleeding and ulceration. □ Since there have been no controlled trials to demonstrate whether or not there is any beneficial effect or harmful interaction with the use of Zorprin in conjunction with other nonsteroidal anti-inflammatory agents (NSAI), the combination cannot be recommended (see **Drug Interactions**). □ **Because of its relatively long onset of action, Zorprin is not recommended for antipyresis or for short-term analgesia.** □ **CONTRAINDICATIONS:** Zorprin should not be used in patients known to be hypersensitive to salicylates or in individuals with the syndrome of nasal polyps, angioedema, bronchospastic reactivity to aspirin, renal or hepatic insufficiency, hypoprothrombinemia or other bleeding disorders. Zorprin is not recommended for children under 12 years of age; it is contraindicated in all children with fever accompanied by dehydration. □ **WARNINGS:** Zorprin should be used with caution when anticoagulants are prescribed concurrently, since aspirin may depress platelet aggregation and increase bleeding time. Large doses of salicylates may have hypoglycemic action and enhance the effect of the oral hypoglycemics, concomitant use therefore is not recommended. However, if such use is necessary, dosage of the hypoglycemic agent must be reduced. The hypoglycemic action of the salicylates may also necessitate adjustment of the insulin requirements of diabetics. □ While salicylates in large doses have a uricosuric effect, smaller amounts may reduce water excretion and increase serum uric acid. □ USE IN PREGNANCY: Aspirin can harm the fetus when administered to pregnant women. Aspirin interferes with maternal and infant hemostasis and may lengthen the duration of pregnancy and parturition. Aspirin has produced teratogenic effects and increases the incidence of stillbirths and neonatal deaths in animals. □ If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus. □ Aspirin should not be taken during the last 3 months of pregnancy. □ **PRECAUTIONS:** Appropriate precautions should be taken in prescribing Zorprin for patients who are known to be sensitive to aspirin or salicylates. Particular care should be used when prescribing this medication for patients with erosive gastritis, peptic ulcer, mild diabetes or gout. As with all salicylate drugs, caution should be exercised in prescribing Zorprin for those patients with bleeding tendencies or those on anticoagulants. □ In order to avoid exacerbation of disease or adrenal insufficiency, patients who have been on prolonged corticosteroid therapy should have their therapy tapered slowly rather than discontinued abruptly when Zorprin is made a part of the treatment program. □ Patients receiving large doses of aspirin and/or prolonged therapy may develop mild salicylate intoxication (salicylism) that may be reversed by dosage reduction. □ Salicylates can produce changes in thyroid function tests. □ Salicylates should be used with caution in patients with severe hepatic damage, preexisting hypoprothrombinemia, Vitamin K deficiency and in those undergoing surgery. □ Since aspirin release from Zorprin is pH dependent, it may change in those conditions where the gastric pH has been increased as a result of antacids, gastric secretion inhibitors or surgical procedures. □ **Drug Interactions:** (See **WARNINGS**) Aspirin may interfere with some anticoagulant and antidiabetic drugs. Drugs which lower serum uric acid by increasing uric acid excretion (uricosurics) may be antagonized by the concomitant use of aspirin, particularly in doses less than 2.0 grams/day. Nonsteroidal anti-inflammatory drugs may be competitively displaced from their albumin binding sites by aspirin. This effect may negate the clinical efficacy of both drugs. Also, the gastrointestinal inflammatory potential of nonsteroidal anti-inflammatory drugs may be potentiated by aspirin. The combination of alcohol and aspirin may increase the risk of gastrointestinal bleeding. □ Aspirin may enhance the activity of methotrexate and increase its toxicity. □ Sodium excretion produced by spironolactone may be decreased in the presence of salicylates. Concomitant administration of other anti-inflammatory drugs may increase the risk of gastrointestinal ulceration. Urinary alkalinizers decrease aspirin's effectiveness by increasing the rate of salicylate renal excretion. Phenobarbital decreases aspirin's effectiveness by enzyme induction. □ **Pregnancy Category D.** See **WARNINGS** Section. □ **Nursing Mothers:** Salicylates have been detected in the breast milk of nursing mothers. Because of the potential for serious adverse reactions from aspirin in nursing infants, a decision should be made whether to discontinue nursing or discontinue the drug, taking into account the benefit of the drug to the mother. □ **ADVERSE REACTIONS: Hematologic:** Aspirin interferes with hemostasis. Patients with a history of blood coagulation defects or receiving anti-coagulant drugs or with severe anemia should avoid Zorprin. Aspirin used chronically may cause a persistent iron deficiency anemia. □ **Gastrointestial:** Aspirin may potentiate peptic ulcer, and cause stomach distress or heartburn. Aspirin can cause an increase in occult bleeding and in some patients massive gastrointestinal bleeding. However, the greatest release of active drug from Zorprin is designed to occur in the small intestine over a period of time. This has resulted in fewer symptomatic gastrointestinal side effects. □ **Allergic:** Allergic and anaphylactic reactions have been noted when hypersensitive individuals have taken aspirin. Fatal anaphylactic shock, while not common, has been reported. □ **Respiratory:** Aspirin intolerance, manifested by exacerbations of bronchospasm and rhinitis, may occur in patients with a history of nasal polyps, asthma, or rhinitis. The mechanism of this intolerance is unknown but may be the result of aspirin-induced shunting of prostaglandin synthesis to the lipoxygenase pathway and the liberation of leukotrienes, *e.g.* slow-reacting substance of anaphylaxis. □ **Dermatologic:** Hives, rashes, and angioedema may occur, especially in patients suffering from chronic urticaria. □ **Central Nervous System:** Taken in overdoses, aspirin provides stimulation which may be manifested by tinnitus. Following initial stimulation, depression of the central nervous system may be noted. □ **Renal:** Aspirin rarely may aggravate chronic kidney disease. □ **Hepatic:** High doses of aspirin have been reported to produce reversible hepatic dysfunction. □ **OVERDOSAGE:** Overdosage, if it occurs, would produce the usual symptoms of salicylism: tinnitus, vertigo, headache, confusion, drowsines, sweating, hyperventilation, vomiting or diarrhea. Plasma salicylate levels in adults may range from 50 to 80 mg/dl in the mildly intoxicated patient to 110 to 160* mg/dl in the severely intoxicated patient. An arterial blood pH of 7.1 may indicate serious poisoning. The clearance of salicylates in children is much slower than adults and should receive due consideration when aspirin overdosages occur in infants; salicylate half-lives of 30 hours have been reported in infants 4-8 months old. Treatment for mild intoxication should include emptying the stomach with an emitic, or gastric lavage with 5% sodium bicarbonate. Individuals suffering from severe intoxication should, in addition, have forced diuresis by intravenous infusions of sodium bicarbonate and dextrose or sodium lactate. In extreme cases, hemodialysis or peritoneal dialysis may be required. □ (*A plasma salicylate level of 160 mg/dl in an adult is usually considered lethal.) □ **DOSAGE & ADMINISTRATION:** *In order to achieve a zero-order release, the tablets of Zorprin should be swallowed intact.* □ *Breaking the tablets or disrupting the structure will alter the release profile of the drug.* □ *It is recommended that Zorprin be taken with sufficient quantities of fluids (8 oz. or more).* □ **Adult Dosage:** For mild to moderate pain associated with rheumatoid arthritis and osteoarthritis, the recommended initial dose of Zorprin is 1600 mg (2-800 mg tablets) twice a day. Because of Zorprin's prolonged release of aspirin into the bloodstream, Zorprin tablets may be taken as a b.i.d. dose. Further adjustment of the dosage should be determined by the physician, based upon the patient's response and needs. Since it will take 4-6 days to reach steady-state levels of salicylic acid with Zorprin, it is recommended dosages be given for at least one week before further adjustment. In general, patients with rheumatoid arthritis seem to require higher doses of Zorprin than do patients with osteoarthritis. □ **Zorprin is not recommended for children below the age of 12.** □ **HOW SUPPLIED: Zorprin Tablets 800 mg;** plain, white capsule-shaped tablets. □ Bottles of 100 Tablets—NDC 0524-0057-01. □ **Caution:** Federal law prohibits dispensing without prescription. □ U.S. Patent No. 4,308,251. □ **Manufactured and Distributed by: BOOTS PHARMACEUTICALS, INC., Shreveport, Louisiana 71106 U.S.A.**

The structural formula of aspirin is:



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For leaders, not followers.

MD'S AND HOSPITALS: CONFLICT OR PARTNERSHIP?

I want to talk about what is happening to our payment system, the system of delivering health care, the forces pushing physicians and hospitals into conflict, and what I think we can do about them. Paul Star's book, "Social Transformation of American Medicine," explains how physicians in this country achieved their extraordinary degree of social and professional power. One of the points Star makes is that physicians and their colleagues in the hospital administrative world seized a key time in the history of American medicine and designed a system of paying for health care, essentially a private system, that not only staved off the emergence of a national health system such as in Great Britian, but that also protected a number of important profesional perrogatives and values. The system was designed through the use of fee for service reimbursement to maximize the physician's freedom to use his professional judgement to diagnose and treat patients. It was financed through cost based reimbursement of the hospital. The physician was encouraged to use the full armada of the hospital's technical and human resources to solve the patient's problems. Through patient free choice and the concept of first dollar coverage of health benefits patients were encouraged to seek out a physician and to engage in a dialogue about how to solve his problem relatively free from economic constraints. Finally the payment system was designed in such a way that it minimized the economic incentives for physicians to compete against one another or for hospitals to compete against one another on the basis of price by trying to include all of the hospitals and all the physicians in the community in the systems of health insurance, whether it was Blue Cross or others.

After a period of almost 20 years of extraordinary prosperity, growth and development of new technology and modes of care, the nations economy, both public and private, is beginning to push back on that dialogue between physician and patient. It is beginning to alter in significant ways the incentives and framework within which medicine is practiced. Economic power which physicians had succeeded largely in cornering has begun to "slop" away. Power is shifting from the people who provide health care and transfering patient care decisions to the people who pay for it. In the process all of those ground rules, fee for service reimbursement, cost based payment for hospital services, patient free choice, first dollar coverage and relatively competitive neutral payment system are all being amended as the power shift takes place. After nearly twenty years of running social programs, the government has awakened to the fact that they are buying almost half of the health care system product and are only now beginning to realize the potential power inherent in the relationship. Many people laughed, cynics in the health services research community, when the state of California decided to put the Medi-Cal program out to bid. "Who would bid to render care to this population?" said the cynics. We learned something about our hospital system and medical care system. About 90% of the hospitals in California bid to continue to render care to Medi-Cal patients under contract. Some of them gave discounts up to $500 per diem below the level of billed charges for the privilege of continuing to take care of the poor. The fact that California hospitals had a system wide occupancy of something like 59% may have had a little to do with the willingness of people to engage in bidding. Hospitals that viewed themselves as providers of service to the community had an enormous amount of difficulty reconciling as service institutions, with the posture that says in effect, "If you are not going to pay me what it costs to render care to patients, we are not going to serve them."

The nation's Medicare program, with DRG's, has essentially said do what ever you want to take care of your Medicare patients but here is all we are going to pay for this particular episode of illness. Not only has the federal government done something unprecendented through DRG's, which is to set a price on the amount of its economic liability for that elderly persons' medical problem, but it has in effect redefined the "product" of the hospital by imposing a set of DRG categories. It would be truely foolhardy for a hospital not to understand the economics of this. Hospitals have now become, whether they wish to be or not, economically accountable for physician decision making and use of the hospital services.

There is great mischief lurking in policy makers approaching the problem. The nation's government payers for care are buying almost half of our health services and are beginning to use their power to begin altering the terms and framework within which medicine is practiced. Private industry is becoming increasingly surly about the ever increasing cost of health care and they are beginning to junk the notion that health care is something they will reimburse for after the fact. They are moving towards the posture of purchasing health services through broader arrangements. This is the way they purchase other kinds of goods and services. Rather than being a framework for supporting medical practice, the payment system is going

to be used as a weapon as institutions struggle to compete in a maturing market place.

Even more influencial than the changes in government and private pay philosophy has been the growing economic enfranchisement of the patient and the consequences of his dialogue with physicians. One of the most important health services research findings of the last twenty years was published in the New England Journal of Medicine on December 1. It was the culmination of a very expensive government study of different methods of organizing a national health insurance system. The Rand Corporation study established that if a family is exposed during the course of a couple of years, to a significant amount of economic risk in using health care, perhaps as much as a couple of thousand dollars a year through deductibles and co-insurance, that family will use half as much health care as the family who has first dollar coverage. The family is apparently no sicker at the end of the study. That is a scarey finding, both because of the dramatic reduction in use of health services when people begin trading off their grocery money or vacation money against that marginal hospitalization, emergency room or doctor office visit, and also because it suggests that a significant fraction of what we have been insuring through expensive complex mechanisms both private and public, may not have been a response to some rock hard need but consumption of health services at someone elses expense.

Patient cost sharing may have had as important an impact in the significant downturn in physician office and hospital visits and hospital days of care that we have experienced in the last two years, as any other factor, including the economy. The demand for health services is inevitably going to continue to increase and that is infact the prevailing hypothesis on the basis of which our policy makers and business leaders have been proceeding. But it is not the case, in fact, the demand for two very important kinds of health services, physician office visits and inpatient hospital services have not only been declining in per capita terms for nearly the last ten years, but during 1982 and 1983, actually declined on a real non per capita basis. The aggregate demand for hospital services in the United States fell by approximatily 5% last year after dropping a couple of tenths of a percent from 1981 to 1982. The demand for inpatient hospital services in this country declined for two years in a row. This was the first time in the history of the post war health economy and was a result of changing economics of health care decision making, and the rapidly growing supply of young physicians.

The typical physician is experiencing between 10 and 20% fewer office visits per physician than he was ten years earlier. That decline is not evenly distributed among various medical and surgical specialties; however, general surgeons and family practitioners absorb the most. Why on earth, in a system that was encouraging patients to seek out their doctor, that was rewarding the doctor for putting the patient in the hospital, rewarding the hospital for expanding its volume, should per capita use of hospital services be falling, not merely during economic troubles but during economic recoveries? That really does not make a lick of sense, does it? It doesn't until you begin to examine how the competitive forces that are emerging in our health care system may have undermined the demand for not only your services in the office setting but demand for services rendered in the hospital as well. I have been studying the phenomenon in a number of different communities. The one that I wanted to bring to your attention, which is probably as different from your community as any that I can think of, is Phoenix.

In 1972 Phoenix had a use rate per thousand population for services that was right around the national average, about 1080 days of care per 1000 population. What happened in Phoenix in the 1970's? The number of elderly people in Phoenix doubled. Health services people say that should have meant increase. The number of elderly people use more health care. Elderly people grew twice as rapidly as the population in Phoenix, so the use rate in 1981, ten years later, should have been 1300-1500 per thousand population. In fact, it was 870 days of care per thousand population. Use rates fell in Phoenix by over 200 days of care per 1000 during the ten year period inspite a doubling of the elderly population. Why? Was there a sudden fitness boom? Did people stop drinking, smoking cigarettes, get out there and exercise like they were being told? There is no evidence of significant changes in life style during the period.

A number of things did change however, the number of physicians in Phoenix increased by more than 50% and so did the number of physician sponsored services such as Emergency Center, Surgery Centers and a rapid expansion of the diagnostic and therapeutic capabilities of physicians attached to their own offices. When physicians encountered declining office visits one of their most common responses was to intergrate vertically, to use industrial jargon, to annex to their practices the ancillary services and personnel they had perhaps been using at the hospital. Instead of the hospital charging for those services the physician does. Orthopedists would hire physical therapists, radiologists would plut in ultrasound and buy CT scanners. The scope of what the physician does expands. In addition, there was an explosion of alternative methods of caring for the elderly person's problem that did not involve caring for them in a horizontal position. Nursing home capacity in the community doubled. Twelve new home health care programs were created. This enabled the patient to have someplace to go

besides continuing to stay in an expensive hospital bed. Hospitals and community agencies started hospices, life care projects emerged and well elderly housing was seen. There were a variety of alternative methods for caring for the elderly that were not only more humane but probably more attuned to the actual needs of the patient than the continued use of an expensive setting to resolve their not entirely medical problems. Finally there was an explosion in HMO enrollment.

Phoenix in 1972 was one of the last bastions of that sagebrush rebellious southwestern physician with the bolo tie.

A lot of people thought the first HMO organizers would be found dangling by their heels from a cactus outside town. By 1981 9% of the population had enrolled in HMO's and a significant shrinkage had taken place in what otherwise had been a fairly vigorously growing private practice fee for service marketplace. In 1972 about 10% of the surgery was done on an ambulatory basis. If you wanted to do ambulatory surgery you had to do it in an unused trauma room of the large hospital and have the anesthesiologist come down on his break to put your patient to sleep.

By 1981 there were eight free standing ambulatory surgical centers for a population of 1.6 million, 35 dedicated ambulatory surgical OR's in hospitals. There was an estimated 40% of all surgery ambulatory. The demand for inpatient services fell dramatically when it might have risen because the health care marketplace had reorganized itself in such a way that physicians and non-hospital providers had aquired a significant capability for resolving patient problems either through a shorter hospital stay or no hospital stay at all. At the present time the demand for private physician office services and hospital based services is either level or declining in every major city in this country, despite the growing, aging population and the allegedly insatiable demand for services.

Against the background of a maturing marketplace several forces have emerged. They are not only dividing physicians but separating physicians from the hospitals in which they practice. Obviously this contains the potential for rising conflict and significant misunderstanding. First are the marketplace pressures. Hospitals and physicians in many parts of the country have moved into conflict over the appropriate role of each party in ambulatory care enterprises which compete directly with the private practice of their physicians. Hospitals then wonder why physicians are angry. At the same time physician entrepreneurship, this vertical integration of the physician's practice, has in some communities stripped away a significant fraction of ancillary service utilization of hospitals and left not only the hospital but the hospital based physician in an untenable economic position. As hospitals and physicians face the emergence of new forms of care, there is ample opportunity for conflict.

One should not view the government as a giant conspiracy to deprive people of freedom, but should view it as a giant conspiracy of incompetence. In the case of physicians and hospitals the role of the government has been more mischievous. In 1982 the government passed a law, The Tax, Equity and Fiscal Responsibility Act (TEFRA). Because our congressional leaders did not want to be responsible to the AMA or anyone else directly for reducing physicians's income, TEFRA altered the way in which hospitals could pay their hospital based physicians. In effect it said to the administrator of the hospital, "you are to reduce the physician's income. Thank you very much."

Having delegated to administrations and boards the thoroughly unwelcome task of taking income out of their hospital based physician's pockets they returned in 1983 to make the hospital economically responsible for the physician's practice patterns and use of the hospital through the institution of DRG's.

The hospital is economic hostage to physician practice decisions. Policy makers in congress know full well that the hospital does not have the leverage, the expertise or the moral legitimacy to alter the way in which physicians practice medicine. It simply assumes that if it puts a gun to the hospital's head the medical staff will come around because they will at least be grazed if the gun goes off. Of course, we are not done with the DRG's. There is talk of putting in a DRG provision for physician services as well. One of the scenarios says put the physician's fee and the hospital cost into one DRG and let the administrator divide it up. There are a few power minded administrators in this country that think that would be a wonderful idea, "at last I've got those physicians...I will have one pot of money for that cardiac surgery and I will decide who gets what." Think through the dyamics of dividing up that money for a minute. Between the hospital's administrative costs on one hand, the cardiac surgeon, the cardiologist, the patient's primary physician, the anesthesiologist, and the lab. It is a nightmare.

As those of you who have been tracking congress closely are aware, having succeeded in delegating to hospital administrations and boards the task of reducing hospital based physician income and the task of altering the way physicians use the hospital, congress is about to draft the hospital in to the task of signing you all up for Medicare, whether you wish to accept assignment or not. You see, this is an idea of pitting the hospital and physicians against one another. The policy makers know full well the appropriate division of responsibility and authority between hospitals and physicians. This will compound the problem of how to arrive at an

appropriate sharing of responsibility in an era of constrained resources.

Every third issue of Medical Economics has an article in it about how the end of private practice, fee for service medicine, is at hand, and how the following vigilante groups are going to come to strip away whole blocks of patients. The somewhat more stayed conservative New England Journal of Medicine argues that there is a medical industrial complex that is going to come along, even here in Alaska, and absorb all so that you will be working for them instead of in the patient's interest. Even Paul Star argued that the growth of corporate medicine represented a fundamental threat to the fee for service private practice.

Perhaps I am looking in the wrong places but I don't see it that way. Even in the Twin Cities which is the alleged bastion of competition, 75% of patient care decisions and 90% of hospitalizations are made by physicians in the private practice fee for service setting. In Los Angeles where Kaiser has operated relatively unbound for 50 years the vast majority of medical decision making remains in the hands of the private practicing physician. The concern about the eminent threat to the survival of private practice is one of the problems on the hospital administrator side of the ledger that is perhaps not as visible to physicians as it is to those of us who advise the health care industry. Being a hospital administrator in an environment like this is not an easy task. Hospital administrators operate under a set of ground rules in which the absence of blame is sufficient praise. Hospital administrators have an extraordinary amount of perceived responsibility but very little authority. There is a subculture within hospital administrators that views the physician in a sort of passive-aggresive type of relationship. The physician is a sort of necessary evil. Physicians prevent the hospital from being managed on a rational basis. Undermining that attitude is a very deep seated and in some cases rational fear of the physician. After all, there is no more career limiting move for an administrator than a fight with ones medical staff. The leading cause of mortality of hospital administrators are fights with physicians over various kinds of things. They just don't win. In the absence of a framework for dealing with the professional objectives of medical staffs and with our reasonably even handed way, many administrators of hospitals have allowed fear and insecurity to infiltrate the relationships. That fear is a very bad basis for managing relationships with professionals or anyone else even in an era of stable resources.

That attitude, that passive-aggressive attitude leads to a confrontational style that is not helpful in troubled times. I must say that my colleagues in strategic planning and health care are not really helping very much. As a speaker at a planning conference who specializes in planning, I don't want any of you to escape with the idea that I don't believe planning is necessary. It is essential. It is as essential as having a road map for going off into the wilderness north or flying off into a range of mountains. You need a flight plan in a competitive world. Most of the models for planning that are being used in health care right now have been taken from business and plunked down on the hospital without really examining the important differences between a hospital and a factory or retail enterprise. These models and planners are sending a seductive message to hospital administrators. The planner is saying to the administrator, "you are not an administrator of a hospital. You are the CEO of a firm with a product line and a profit and loss statement, just like the chairman of Proctor and Gamble. Your job under DRG's is to weed out that product line, the losers and make decisions based on what your institution's needs are." That really is a seductive message and you can see the problems a person is going to get into in a situation where he believes he is the chairman of Proctor and Gamble. You physicians believe the administrator is put there to keep the lights on and the bills paid. You can see that there is a lack of congruity between the two definitions of administrators role. You can tell there is a problem with these planning models from the vocabulary they use to describe the doctors.

Is the doctor a customer of the hospital? That sort of implies the doctor is outside the hospital. He is buying something that the hospital fabricates on his behalf. If the hospital does not meet the physician's needs the physician can always go to somebody else.

The customer analogy breaks down quickly. Is the physician a supplier to the hospital? That puts the physician outside the hospital also. Is the physician a stake holder, like a person sitting at a poker table with a deck of cards and stack of chips? That is a model I have heard used.

Is the physician a wholesale distributor in a dealer network? As Karl Marx would have it, a factory production to be managed and rationalized or as the Rodney Dangerfield subculture of administrators would have an unidentified flying object?

The resulting portrait of the physician's role in the hospital as produced by strategic planning just does not fit. The physician does not fit neatly into those matrices of market share, market growth and profitability that people are trying to impose on the hospital. That portrait of the hospital is a sterile lifeless facsimile of the complex mission and expensive mission of caring and healing that brought most of physicians into the profession. I guess the end point of the theory about how hospitals and physicians ought to relate is sort of a Walter Mitty approach to Management.

What am I advising physicians and hospitals to

do about relationships and how to manage the relationships of potential conflict? Try to produce an aura in which quality care can continue to exist in hospitals and the community. On the hospital side I am advising management to begin by burying the hatchet and not in the back of the physician's head. To surrender their Walter Mitty fantasies about hitching the physicians to the hospital's wagon and seek to reaffirm partnership with the physician. This is at the core of the successful hospital. With the growth in physician supply most physicians in most communities have a much more serious competitive problem then the hospital. Hospitals would be slitting their own throats if they were to take steps that heedlessly worsened the problems of their patients. It is in the hospital's interest to support the private practice of medicine, not because it resonates well with the values of organized medicine but because in its enlightened self interest, the hospital is thereby supporting what many people would observe to be the most successful product in American health care--Private practice, fee for service.

Relationships on a free choice basis is what people in our society want. It is what they tell us they want in public opinion polls and what people demand when they have a choice. I believe the competitive well-organized responsive medical staff is the key to the survival of the hospital in a competitive world and to the extent the hospital is to be successful its strategic objectives must be arranged in such a way that they further the objectives of the private practice of medicine, not impede it. The hospital's goals and asperations cannot long remain a mystery to medical staffs. Hospitals must involve their physicians in the process of setting strategic objectives, because otherwise the likelihood that those objectives will coincide with the objectives of preserving quality in the private practice of medicine is not very great.

What about physicians? What about medical staffs relating to the hospital? I think physicians are going to recognize, that, hospitals have now been placed at risk, not only by the government but by the market place for the consequences of their behavior and the use of the hospital. The hospital will become increasingly fragile economically over the next few years.

I don't see the emergency of a socialized system of medicine in our country. I think we are further from that today than we have been in the last 20 years.

In that competitive marketplace the hospital will have a limited ability to withstand what I call "cream skimming", physicians installing scanners across the street from the hospital and funneling their patients to them. After a certain point the hospital is left with the sickest patients not adequately financed.

I have detected in many communities elements of the double standard. Do your own thing. If your colleague wants to put in a scanner don't worry about it, kind of ethic. That results after a time in the hospital not having enough resources to meet the patient care needs of its medical staffs. That is a very difficult question for physicians to address. It strikes to the heart of independence of the private practice. Carried to its logical conclusion, unrestrained physician entrepreneurship will leave the hospital an economic "basket case", unable to meet the needs of its medical staffs or communities.

I believe physicians are going to have to recognize that hospitals must be managed on a more business-like basis. This does not mean that they are businesses but what it does mean is the hospital is going to be faced with extraordinary economic pressure, pressure to meet needs with restrained resources. Hospitals are struggling to develop not only structures but new sources of revenue to continue to meet the needs of their medical staffs. I think the struggle is going to be a very difficult thing for physicians to comprehend since it may result in the hospital becoming more than simply a physician's workshop.

The hospital is probably not going to survive as an economically viable enterprise if its sole source of revenues is in the in-patient hospital services. A lot of hospitals, physicians, medical staffs, boards and administrative leaderships are struggling to find out-services that can be delivered in a cooperative setting. They will permit the hospital to be economically viable in an era that seems less and less forgiving of those economic and human needs.

The payers for care are sending us a powerful message and we really should not mistake that message. The message is we cannot afford to pay for 280 million days of in-patient care at your cost and on your terms any longer. Give us some products and services we can afford. Take some increased measure of economic responsisbility for that consequence of physician-patient relationship.

I am convinced that if this is done in a rational way, medical technology and new forms of health care will provide us with a wide variety of tools for stretching the health care dollar while preserving quality. It will take a great deal of discipline for physicians and administrators to follow those pathways and to bring those newer more cost effective kinds of services to the community in a package they can afford.

Finally, physicians need to recognize that the medical staff is going to require a kind and degree of leadership that it has really never needed in the past. Whatever grandiose thinkers in hospital planning may feel, I don't believe any hospital administration is going to find a good substitute for the sound clinical judgement, discipline, creativity and committment of a well organized medical

staff.

I think that when we sort all these things out, the opportunities for collaboration and for conflict, we will be brought back again to the proposition that the hospital is an inherently cooperative enterprise. In a era of constrained resources, angry charges, etc. there will be ample opportunity for demigods on both sides of the ledger to exploit the fear and uncertainity that exists among professionals and managers. To those who have been accustomed to excellence, to merely to aspire to survive is a mediocre objective. It is possible to survive in an armed camp but I believe that if we are to produce the quality of medicine that our communities expect we must do it by recognizing that our objectives are indeed very very much alike.

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GLOSSARY OF TERMS

A.D.S. — Alternative Delivery System is a type of health care coverage other than the traditional insurance packages. Some examples of an ADS are health maintenance organizations and preferred provider organizations.

D.R.G. — Diagnosis Related Groups is a classification system that groups patients according to principal diagnosis, presence of a surgical procedure, presence or absence of significant comorbitities or complications, and other medically relevant criteria. DRG's are used in establishing the rate of reimbursement for Medicare patients.

E.P.O. — An Exclusive Provider Organizations is a grouping of fee-for-service providers who contract to provide medical service to a defined group of individuals at a negotiated fee. In this arrangement, the beneficiary has no coverage outside of the network of contracting providers.

H.M.O. — A Health Maintenance Organization is an organized health care delivery program that provides medical services to subscribers on a pre-paid basis. In exchange for an amount of money which has been agreed upon in advance, the HMO provides all necessary medical services from the prescribed list of benefits to those individuals who choose to enroll. Physicians may be employed by the plan, form a group exclusively to contract with the HMO or form an association (HPA) to contract with the HMO while remaining in private practice also.

I.P.A. — An Independent Practice Association is physicians in private practice, either individually or collectively contracting with an HMO for the purpose of delivery health care services to a defined population, while maintaining their fee-for-service practice.

P.P.O. — Preferred Provider Organization is a group of health care providers that contract to provide health care services on a predetermined and discounted fee-for-service basis with health care purchasers. The purchasers are given economic or other incentives to use these designated providers.

P.P.S. — Prospective Payment System is the new Federal government reimbursement system for Medicare/Medicaid patients. Reimbursement is based on a rate of payment for each hospitalization pre-established prior to care. It is based on DRG's and is fixed regardless of the number or type of services provided or length of stay for any individual patient.

P.R.O. — Peer Review Organization is a group of physicians who review the appropriateness of care provided to Medicare and Medicaid patients. It is a requirement under the prospective payment system.

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COMMITMENT TO PUBLIC HEALTH

An Issue for 1984

The quality of life of all Alaskans will be deeply affected by the future level of support given to public health programs. Solutions exist to decrease morbidity and mortality, to improve day to day quality of life, to save enormous amounts of public dollars, and to avert human suffering. Despite the obvious positive contributions of public health, public health advocates are forced to fight repeatedly for already proven programs. Alaska's population continues to grow while State revenues fall. Application of proven measures is being delayed due to the absence of experienced and trained staff, lack of funds, and the present low priority being given to public health. What is our commitment to Public Health?

Infant mortality rates for Alaskan natives were more than doubled the rates for whites in the 1970's. In 1971 the crude mortality rate for natives was 93% higher than the rate for whites; by 1979 the rate for Natives was 153% higher than for whites. Infant mortality for natives was 2.5 times greater than for whites (22.3 vs. 8.5 per 1000 live births) in 1979-80.

In 1978 there were 283,733 licensed motor vehicle drivers in the State of Alaska, and there were 280,457 motor vehicles registered. During 1978, 137 fatalities from 122 fatal accidents were recorded; 15,030 motor vehicle accidents were recorded. In 1978, there were only 10,171 pilots certified by the FAA, and 6,554 registered aircraft. Yet, in 1978, there were 100 fatalities reported from 48 fatal accidents; 58 individuals were seriously injured; 265 accidents were reported. The fatality rate per licensed operator was 0.048% for motor vehicle operators compared to 0.98% for pilots; a 20 fold difference. Pilots engaged in civil aviation in Alaska constitue a small group with a risk of accidental death 20 times higher than motor vehicle operators.

Preventable high frequency hearing loss is epidemic in Alaskans of all races, particulary among male Eskimos and Indians where as many as 60% of adult males and 8% of adult females are affected. Serious problems caused by exposure to toxic or hazardous materials occurring in the environment or at the work site increasingly are being recognized in Alaska. During the past year, major investigations of such exposures have taken place involving workers exposed to:

—Pentachlorophenals (PCPs) - Workers in Barrow, Alaska.

—Polychlorinated biphenyls (PCBs) - Workers in Aniak.

—Asbestos - School children, teachers, maintenance workers in schools throughout Alaska.

—Ethylene dioxide and diesel fumes Employees at Valley Hospital, Palmer.

—Herbicides - Railroad workers

—Carbon monoxide - Deaths among fishermen and construction workers.

Inadequate funding in the Division of Public Health has resulted in decreased support for vaccine programs to protect against childhood diseases, influenza, and pneumoccocal pneumonia. Supply of these vaccines to physicians and hospitals throughout Alaska was discontinued. Since 1955, 18 Alaskan children are known to have died from dog bites - more than the total number of deaths from diphtheria, tetanus, pertussis, polio, measles, mumps, and rubella combined.

Failure to allocate adequate staff and funds to seafood and restaurant inspection programs resulted in botulism outbreaks in the commercial salmon industry and a major increase in the foodborne outbreaks were investigated in 1983 caused by hepatitis A, Salmonella, and Clostridium perfringens involving illness in more than 300 patrons.

Low priority given to public health has resulted in prolonged vacancy of the position of Director of the Division of Public Health.

"The rationale for prevention is clearly the improvement of life quality; nonetheless, when prevention programs can be shown not only to improve life quality but also to reduce health care expenditures and provide savings in other ways, a decision by budget makers to avoid adequate funding of such programs is already a decision to increase expenditures for that condition and simultaneously to increase human suffering. It is a decision to tolerate fraud, waste, and abuse". (1)

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John Middaugh, M.D.

SHIPS' SURGEONS AND NATURALISTS IN THE EARLY HISTORY OF ALASKA PART 1: VOYAGES OF DISCOVERY, 1741-1786

The names Bering and Cook are household words in Alaska. Less familiar but recognizable to most are the names of Kotzebue, Malaspina and Dixon, each associated with a conspicuous geographical feature of the State. Names of the remaining early explorers of Alaska will be known largely to history buffs although they deserve a better fate.

Even the aficionados of Alaskan history will be able to name only a few of the ships' surgeons and naturalists such as Steller, Langsdorf, Simpson, and possibly Merck, who sailed on expeditions. Yet nearly every vessel carried from one to three individuals whose skills were essential to the safety and success of the mission. Not only were they given the vital tasks of caring for the sick and injured and preventing scurvy, they also were frequently charged with making scientific observations, collecting and preparing scientific specimens, and sometimes writing the official narrative of the voyage.

The story of some of these sea-faring doctors will be presented here in a series of three articles. In a sense these are not Alaskan doctors since most spent only a few months on or more often near our shores. Yet in a broader sense they were indeed Alaskan since each helped to shape our Alaskan heritage. Their contributions ranged from the nearly forgotten to the unforgettable. Some unfortunately, carried out their duties as physicians or naturalists and left no more track than did their ships' keel on the waters of the North Pacific. Others have had their names permanently preserved in major bays, mountains, islands, or headlands of the State, usually in recognition of their commanders' affection and respect.

Some of this select group were men of integrity and strength while others were petty and small-minded. Some were brilliant men of science while others were pedestrian hacks who probably could not make a living at home. Their personalities ranged from generosity and nobility to peevishness and truculence. A few gloried in the beauty and natural history of Alaska; a few no doubt cursed the ill wind that had brought them here. Two of them found their grave in Alaska.

The names and deeds of these ships' surgeons and naturalists of nearly two centuries ago merit more than quiet oblivion, if only because these hardy doctors in a strange but recognizable way reflect the Alaskan profession of today -- warts and all.

The Bering Expedition to Alaska (1741-1742)

A Dane in the Russian Imperial service, Vitus Bering, was chosen by the Empress in 1733 to lead the massive Second Kamchatka Expedition which was to explore eastern Siberia and the surrounding waters. In 1737, while the expedition was working its glacial way across Siberia, a young German military surgeon, Georg Wilhelm Steller, was commissioned to join as Adjunct in Natural History.

Born in 1709, Steller had early training in theology then studied botany and some medicine at the University of Halle. Disappointed at not securing a university appointment in botany, he signed on as a Russian Army surgeon and made his way to St. Petersburg where with the help of influential friends he obtained his appointment with Expedition.

Steller finally overtook Bering in Okhotsk, and by a stroke of luck was able to join the sea voyage when Caspar Feige, the surgeon, became ill. Steller was aided in his medical duties by Assistant Surgeon Betge, probably also a German.

Two small ships, the St. Peter and the St. Paul, the latter under the command of Captain Chirikov, set out from Avacha Bay on the Kamchatka Peninsula in June 1741. Soon after the two ships accidentally separated at sea and never rejoined each other.

Bering's ship sighted land on July 16, probably the majestic peak of Mount St. Elias. Steller himself claimed to have been the first to see the landfall on the previous day, but as he wrote bitterly, "the announcement, as usual, was regarded as one of my peculiarities". By this time it was clear that Steller had already made many enemies by his abrasive personality and his inflated ideas of self-importance.

A few days later the ship anchored off a small island now called Kayak Island, at the eastern approach to Prince William Sound. Bering, although he had finally reached the goal of eight years' hard labor, was alread tired and sick, and his only thought was to replenish his water casks and head for home before the autumn storms began. Steller was outraged by this decision and accused the Captain of merely "carrying American water to Asia". Finally, probably to get rid of him, Bering permitted the naturalist to go ashore briefly with the watering party led by Sailing Master Khitrov, his worst enemy. The captain, in a rare display of humor, gave the party a trumpet flourish from the

quarterdeck. Steller spent only ten hours on the island, botanizing and investigating a recently occupied Native camp. He was very nearly left behind because of his refusal to be hurried in his observations.

As the ship headed westward toward home skirting south of the Aleutians, scurvy broke out among the crew. Significantly, it was Assistant Surgeon Betge, not Steller, who held a conference with the officers to discuss the worsening health situation. Two weeks later a second conference was held, again without Steller.

In late August a group of islands was sighted and a party went ashore for water. Though Steller found a good clear spring, the sailors insisted on filling their casks from the brackisk tidal pools near the shore. The naturalist even sent a sample of his better water back to the ship, but as he wrote,

> "although in this matter I ought to have been listened to in my capacity as physician, nevertheless my proposition . . . was rejected from the old habit of contradicting."

Ominously, two days later a sailor named Nicholai Shumagin died of scurvy and was buried ashore, Bering naming the islands in his memory.

While there the expedition first met with the Native people of Alaska. Steller later wrote at some length of this historic but brief meeting, providing much of ethnographic interest.

As the health of the crew further declined. Steller began to be called upon more and more to perform medical duties though he was still smarting from his supposed slights. For example, when he talked about the inadequate contents of the medicine chest ("surgical remedies enough for four to five hundred men in case of battle . . . but none whatever of the medicine most needed on sea voyages") or had requested a shore detail to assist in gathering antiscorbutic plants, he felt he had been brushed off, "like a surgeon's apprentice belonging to the command".

During the voyage westward down the Aleutian chain new cases of scurvy appeared almost every day. Bering himself became a victim and Steller treated him with some spoonwort, an antiscorbutic he had collected for his personal use. The ship encountered severe autumn storms with a crew hardly sufficient to man the ship yet there was no choice to push before the gales.

Finally in November the ship reached what is now called Bering Island in the Commander Group. Twelve men had already died and 34 more were disabled out of an original crew of 76. Over Bering's better judgement the officers voted to winter on the island. It was to be the Captain's grave.

The sorry remainder of the crew passed a miserable winter with abundant food and water but with little shelter. Here at last Steller's strength and above all his resourcefulness were recognized and appreciated by the crew. His medical skills, his knowledge of plants and animals, and even his leadership abilities combined to help the party survive a grim winter.

The following year a smaller vessel was built from the wreck of the St. Peter, and with this fragile craft the survivors at last reached Avacha Bay in late August 1741. Steller remained in Kamchatka for a couple of years working up his scientific studies, then finally left for St. Petersburg in August 1744. On the way he got into trouble with the Imperial Government and although eventually cleared, he died of a fever on November 12, 1746, at the age of 37 in the town of Tyumen, Siberia.

Steller was not only the first but probably also the most eminent of all the ships' surgeons who visited Alaskan waters. Though an arrogant and abrasive individual, he was unquestionably gifted as a naturalist having described four sea mammals which were new to science -- the sea otter, northern fur seal, Steller sea lion and Steller sea-cow (now extinct). He was the first to describe the Steller jay, the speckled cormorant (now extinct), Steller sea eagle and Steller eider. Many plants were also among his discoveries, including a genus Stelleria, named by Gmelin in his honor.

Steller's name is commemorated in several Alaska place names including Mount Steller in the Waxell Ridge (10,267 ft), a second Mount Steller in Katmai National Monument (7300 ft), Steller Cove on Attu Island, and two "secondary" names, Steller Glacier (near Mt. Steller) and Steller River (emptying into Steller Cove.)

Before leaving the Bering Expedition, a word should be said of the fate of the second ship, the St. Paul, commanded by Alexei Chirikov. This voyage, in some ways every bit as heroic and tragic as that of Bering, is of less interest only because we have no record of the ship's surgeon beyond his name which was Lau. He must have been busy since the crew of this vessel returned in 1741 from the coast of America decimated by scurvy and thirst.

It is a curious coincidence that when Steller died of a fever five years after the expedition in a lonely town in Central Siberia, the doctor called to attend him was none other than Surgeon Lau who happened to be passing through.

Early Spanish Explorations (1774-1779)

In 1774 the Santiago, a small vessel under the command of Juan Perez, left San Blas and between July 15 and 17 probably sighted the southernmost cape of Prince of Wales Island, the present boundary of Alaska. The ship carried a surgeon but his name is lost.

The following year the Santiago and a smaller schooner the Sonora, under Lt. Juan Francisco de Bodega y Quadra with Maurelle as pilot, set out northward to extend the explorations. The Santiago did not reach Alaska but the Sonora, though only

36 feet long, penetrated nearly as far north as Cross Sound before being forced to turn back because of scurvy. Bodega made several landings on the Alaskan coast and claimed the lands for Spain.

The crew was affected with scurvy on the voyage to the extent that ultimately only two men, one of them at the helm, were available for each watch. The vessel was apparently too small to carry a surgeon, since Bodega complained in his account that he lacked both medicine for scurvy and anyone to administer it. It was scurvy in fact that aborted the brave voyage.

The most significant early Spanish expedition was fitted out in 1779 with Lt. Ygnacio Arteaga commanding the Princesa and Bodega y Quadra the Favorita. Sailing as surgeon on the former vessel was Juan Garcia while Mariano Nuez Esquibel was surgeon of the latter. A letter of Arteaga to the Viceroy of Mexico has survived enclosing a five page request for drugs and medical supplies for the voyage. The list, signed by Esquibel and another surgeon named Gervasio Sanchez, is notable for the extraordinary variety of remedies of every imaginable type requested.

The voyage had an early start and by early May 1779 the vessel had reached Bucareli Bay not far from present day Craig. Throughout the late spring and summer the ships and their smaller boats explored the bays and inlets nearby than sailed northwestward along the coast, sighting Mount St. Elias, the islands of Prince William Sound, and even Cape Elizabeth at the entrance to Cook Inlet before sailing for home.

On May 20 while the ships were still on Bucareli Bay an illness broke out on the Princesa affecting many of the crew and even ending fatally for several. Since Surgeon Garcia was away with an exploring party at the time, Esquibel of the Favorita suggested to the Commander that a camp be established on shore where the men might be more comfortable and the climate more favorable to recovery. A shelter was built on the beach at Santa Cruz to house the invalids -- surely Alaska's first hospital. Despite the raw weather and the severity of the illness, Esquibel's skills were such that only two victims died.

While the vessels were at sea in early July, Garcia reported some 25 crew members of the Princesa sick with scurvy. Two weeks later for reasons that are unclear, the disabled list was down to 10, five of them with scurvy. At the same time the Favorita had eight sick, only two with scurvy. Apparently in view of the improving health situation, a council of officers decided to pursue their explorations instead of turning back.

The two surgeons of this voyage are both remembered on the map of Alaska. The Gulf of Esquibel (Bahia de Esquibel), named by Maurelle, is situated between Prince of Wales and Maurelle Island and northwest of San Fernando Island. A small Esquibel Island in the vicinity was named in 1916. Point Garcia (Punta de Garcia), also named by Maurelle is found on the northwest coast of San Fernando Island together with Garcia Island (Isla de Garcia) nearby.

Captain Cook in Alaska (1778-1779)

The voyages of Captain Cook, particularly the third which explored much of Alaska's coast, need no introduction. The men of the Resolution and Discovery left an invaluable record of a magnificent achievement in exploration.

No fewer than six surgeons and surgeon's mates were assigned to the ships by the British Admiralty. This is an unusual number though it must be remembered that Surgeons on official voyages of discovery had many duties other than clinical. Three of the six left a record of the voyage; the other three are little more than names.

William Anderson was Surgeon on Cook's own vessel, the Resolution. Born around 1748 in Scotland and possibly educated at Edinburgh, he had sailed with Cook as Surgeon's Mate on the second voyage (1772-1775), then briefly on another ship before joining the third voyage in February 1776. He was a young man of exceptional talent, in fact one of the best minds on any of the three voyages. His interests in science took him far beyond medicine extending to chemistry, botany, geology, biology, ethnology and even linguisitics. His personality was such that he was liked by everyone, both officers and crew. Cook trusted him completely; in fact, Anderson was one of a very few who could privately criticize the Captain. He kept a detailed journal of the voyage, which though never published separately, was indispensable to Cook's own official narrative.

Anderson unfortunately, was already ill from tuberculosis by the time the ships left England, and as the voyage progressed his disease steadily worsened. There is a story that before the ships were due to sail north to the arctic regions he proposed to Captain Clerke of the Discovery, himself afflicted with tuberculosis, that they ask permission to remain behind in Tahiti to try to salvage their health, but nothing came of the plan. As the ships made their way north to the Alaskan coast, Anderson was very ill. His condition continued to worsen until on June 3, as the ships were in Cook Inlet near present-day Anchorage, he made his last diary entry. Exactly two months later in stormy waters of the Bering Sea, Anderson died and found a sailor's grave.

Cook was moved to write in tribute,

> "He was a sensible young Man, an agreeable companion, well skilled in his profession, and had acquired much knowledge in other Sciences, that had it pleased God to have spar'd his life might have been usefull in the Course

of the Voyage."

Though his diary entry is perhaps understated, the Captain's true feelings are reflected in the fact that he that day named a high point of land 12 leagues to the westward in honor of his Surgeon. "Anderson Island", regrettably, it does not appear on the map today because the land he saw was a portion of the eastern end of St. Lawrence Island which had been discovered and named by Bering in 1725. Interestingly, the following month Cook named the opposite end of the same large island after Captain Clerke who later also died of tuberculosis in northern waters and was buried at Kamchatka.

Clerke, who felt very close to Anderson, wrote in his journal:

> "The Death of this Gentleman, is a most unfortunate Stroke to our Expedition Alltogether; his distinguished Abilities as a Surgeon, and unbounded humanity render'd him a most respectable and much esteemed Member of our little Society . . ."

Two days after Anderson's death Cook appointed John Law, Surgeon of the Discovery, to the vacant post on the flagship. Very little is known about him except that he was probably a little older than the other surgeons. A fragment of his journal has been preserved.

When Law was posted to the Resolution, David Samwell, surgeon's first mate of that ship was promoted to Surgeon on the Discovery. This young man of 27 years was a Welsh pastor's son who as early as 1771 had made a voyage to Greenland. Totally opposite from the serious-minded and scholarly Anderson, Samwell was an enthusiastic and articulate extrovert whose outside interests lay not in science but in literature and genial conversation. His constant preoccupation was girls and his journal is spiced with the jolly and irreverent details of his conquests from Tahiti to Unalaska. Despite his more frivolous side, Samwell was apparently a competent surgeon who could be serious and even scientific when the occasion demanded. He had a deep love and respect for Captain Cook, to whom he attributed the discovery of a method of preserving the health of seamen on long voyages that would assure his everlasting fame. Samwell also investigated the circumstances of Cook's death and published an account of it.

After the voyage Samwell studied surgery at the Hunterian School in London, then served on other ships until 1796. He wrote a considerable amount of poetry in both Welsh and English and became the center of a Welsh literary circle in London. He died in 1798.

Samwell's first mate on the Discovery was James Snagg, of whom we know nothing further except that he qualified only a few days before signing on the expedition.

Another obscure figure was Robert Davies, originally surgeon's second mate on the Resolution but promoted to surgeon's first mate when Samwell transferred to the Discovery. Davies and Samwell were almost the same age and in fact were schoolmates in Wales.

The sixth member of the medical department was William Ellis, who began as surgeon's second mate on the Discovery and moved to a like position on the Resolution in February 1779. Ellis had a background quite unlike that of the others having studied at Cambridge and later at St. Bartholomew's Hospital in London. He had a sensitive and genteel nature with a gift for draughtmanship expressed in the delicate watercolors to be found in his narrative of the voyage. It was this book however, that was to be his nemesis. On return of the ships to England in 1780, Ellis, in need of money, succumbed to an attractive offer from a publisher which brought out his account in 1782, well before the official narrative. This indiscretion spoiled his chances for further promotion in the Navy. He was killed in 1785 in a fall from the mainmast of a ship heading for Germany where he was to have served on a voyage of exploration for the emperor.

Little of purely medical interest occurred during the stay in Alaskan waters in 1778 and briefly in 1779. The crew as on all of Cook's voyages, remained remarkably free from disease including scurvy. The various diarists made scattered comments on the health of the Native people they saw, but tantalizingly few.

La Perouse at Lituya bay (1786)

Not to be outdone by the other major European powers in matters of exploration and trade, the French government in 1785 dispatched two frigates, the L'Astrolabe and La Boussole on a round the world voyage. The expedition, under the command of Captain Jean F. G. de la Perouse, was to give special attention to the Northwest coast of America where it arrived in June 1786 near Bering's original landfall. Trending eastward and southward, La Perouse finally entered on July 2 an unusual natural harbor now known as Lituya Bay but named by him Port des Francais. Remaining there the greater part of a month, some of the ship's officers traded extensively with the local Indians while others led brief exploring expeditions in the surrounding area.

Since one of the major purposes of the expedition was scientific inquiry, the two ships carried a large medical staff. On La Boussole the Surgeon-Major was Rollin, who was apparently university trained, assisted by Surgeon's Mate James Le Car. L'Astrolabe carried a physician-naturalist De la Martiniere, who not only was a "Doctor of Physic" but also botanist for the voyage. Navy Surgeon LaVaux probably did the routine medical work assisted by John Guillou, listed as Ship's Surgeon.

The sojourn in Port des Francais was fraught with hazards. A major tragedy occurred in mid-July when three small boats were sent out to make soundings at the harbor entrance. Two of the three were caught in strong cross-currents and capsized in the breakers. No less than 21 officers and men from both ships were drowned, though the victims fortunately did not include members of the medical contingent.

On another occasion the two surgeon-majors (presumably Rollin and LaVaux) disobeyed a standing order by going ashore alone to hunt. They were attacked by the Indians who tried to seize their muskets. The firearms in fact were the means by which the doctors were able to make their escape safely.

Medical aspects of the Alaskan segment of the voyage are sketchy. The surgeons are mentioned a few times though usually not by name in the official narrative. Scurvy threatened as the ships reached the cold damp coast, and as preventive the surgeon proposed mixing an infusion of bark with the crew's morning ration of grog. This ruse was apparently successful at least in making the sailors take their medicine if not in wholly preventing the scurvy.

At Lituya Bay the officers found many types of common plants, such as celery, sorrel, wild peas, yarrow and chicory. These they ate in soups, salads, and stews. berries were also abundant. All these must have been not only a welcome change in diet from the ship's provisions at sea, but also a good insurance against scurvy. Scurvy in fact was a ligitimate preoccupation of the Captain, since he was well acquainted with the devastation it had caused on previous voyages to these latitudes. Perhaps it was this concern that caused him to see scurvy in a few Indians with swollen legs, despite the fact that their gums were healthy.

In an appendix to the official narrative Dr. Rollin included a treatise entitled "Observations on the Physiology and Pathology of the Natives of America". Unfortunately he devotes most of this to descriptions of the diseases of the California Indians. His observations on the Indians of Lituya Bay are limited to their personal appearance and methods of ornamentation. He noted their fine white teeth and the absence of the "itch", despite their lack of personal cleanliness.

In the early part of August La Perousse's squadron sailed southward past Norfolk Island, Bucareli Bay and Dixon Entrance, leaving Alaska behind without making further landings.

(To be continued)

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ALASKA STATE MEDICAL ASSOCIATION
ACCREDITATION COMMITTEE

Continuing Medical Education Mission Statement

Recognizing that individual physicians have basic responsibility to continue learning throughout their careers; and

Recognizing that individual physicians utilize a wide range of continuing medical education activities as tools in their ongoing learning process, based in part upon their perceived needs, their individual preferences of learning methods and their practice settings; and

Recognizing that physicians and other citizens as well as some public and private organizations look to the medical profession to establish accepted standards of education regarding that way of knowledge and skills generally recognized by the medical profession as within the basic medical sciences, the discipline of clinical medicine, and the provision of health care to the public;

The Alaska State Medical Association here declares its mission for continuing medical education.

The goal of ASMA accredited continuing medical education programs is to provide the maximal number of education opportunities to Alaskan physicians that is consistent with available resources and practice setting.

The scope of ASMA accredited continuing medical education programs is that range of activities necessary to supplement the programs and resources available from outside Alaska in such a manner that individual Alaskan physicians will have an acceptable program of continuing medical education accessible in their practice setting.

The potential participants in ASMA accredited continuing medical education are all physicians in Alaska, with practices ranging from solo practice in isolated areas to group practice in tertiary level medical centers. The emphasis will remain upon filling needs not met through other means.

The activities and services provided by ASMA - accredited CME will include but not be limited to: formal presentations at ASMA annual meetings; hospital based grand rounds, recurring seminars, specialty-specific meetings, and conferences; specialty society meetings and seminars; and special topic meetings or seminars.

It is the stated policy of ASMA that all CME activities are open to any physician licensed in Alaska with fees for attendance determined by the individual organization or institution sponsoring the activity.

Requirements for Sponsors of Continuing Medical Education Programs

1. INTRODUCTION

The Accreditation Council for Continuing Medical Education (ACCME) conducts a voluntary accreditation program for institutions and organizations providing continuing medical education (CME). ACCME seeks to improve the quality of CME and to assist physicians in identifying CME programs which meet their standards. The Alaska State Medical Association (ASMA) is recognized by ACCME to accredit CME in Alaska.

2. DEFINITIONS

A. Continuing Medical Education (CME): Continuing medical education consists of educational activities which serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public or the profession. The content of CME is that body of knowledge and skills generally recognized and accepted by the profession as within the basic medical sciences, the discipline of clinical medicine, and the provision of health care to the public.

B. The purpose of CME and Accreditation: To assure physicians and the public that CME activities meet accepted standards of education.

C. CME Accreditation: The recognition accorded eligible institutions and organizations with meet the "Essentials".

D. Program of CME: The overall CME program of a sponsor consists of one or more educational activities consistent with the "Essentials".

E. CME Activity: A coherent education offering which is based on defined needs, explicit objectives, educational content and methods.

F. A Sponsor: An institution or organization assuming responsibilities for CME.

G. A Participant: A physician engaged in CME.

H. The Essentials: "Essentials for the Accreditation of Sponsors of Continuing Medical Education", a list of seven mandatory requirements form ACCME directed at state associations and others

who accredit CME. They are included as Section 7 of this document.

3. AUTHORITY TO ACT

Within the framework of the Essentials ASMA is reviewed and empowered by ACCME to accredit CME in Alaska. The ASMA Accreditation Committee requires periodic review and reporting activities by all Alaskan sponsors who conduct educational programs for physicians and offer CME credits.

4. REQUIREMENTS

A. Produce a written statement of the program's medical education mission with specific reference to:

1. the goals of the overall CME program;
2. the scope of the CME effort;
3. the characteristics of potential participants;
4. a description of the activities and services provided.

B. Produce an annual report of activities and submit it to the Alaska State Medical Association at least once each calendar year. The report should indicate concisely the manner in which the individual CME activities realize the goals outlined in the sponsor's mission statement, with particular reference to the explicit objectives of each CME activity.

C. Undergo a periodic survey of program activities conducted by the CME committee, being prepared to demonstrate at that time the manner in which the design and execution of the program activities reflect the ACCME Essentials.

5. CERTIFICATION

Sponsors found to be in compliance with the requirements of the CME Committee will be given formal authority to produce CME activities and to award CME credit to participants.

6. APPEAL PROCESS

In the event of an adverse accreditation decision, the sponsor may appeal the CME Committee decision to the Council of the Alaska State Medical Association. Appeals may not be referred to ACCME, since ASMA has responsibility for intrastate accredition.

7. ACCME ESSENTIALS

This list of seven mandatory requirements for ASMA from ACCME is the framwork within which ASMA makes accreditation decisions. Each item represents a standard of performance by which ASMA is evaluated by ACCME, and in turn ASMA evaluates Alaskan CME sponsors.

A. A written mission statement formally approved the Governing Body.

B. Established procedures for identifying CME needs and interests of prospective participants.

C. Explicit objectives for each CME activity.

D. Design and implementation of education activities consistent with stated objectives.

E. Ongoing evaluation of CME programs with application of this information to future planning.

F. Evidence of all necessary resources to fulfill the mission.

G. Co-sponsorship activities must be strictly defined and maintained as the responsibility of the sponsor.

David Johnson, M.D.
Chairman Alaska State Medical Association
Accreditation Committee

Read this page like your life depends on it

Learning how to examine your breasts properly can help save your life. Breast cancer found early and treated promptly, has an excellent chance for cure. Once a month, about a week after your period, when your breasts are not tender or swollen, use this simple 3-step self-examination procedure. Regular inspection shows what is normal for you and will give you confidence in your examination. Most lumps are not cancer, but only a doctor can make a diagnosis. Ask your doctor to teach you this method.

1. In bath or shower.

Fingers flat, move gently over each breast with the opposite hand. Check for any lumps, hard knots or thickening.

2. In front of a mirror.

Inspect your breasts with arms at your sides. Next, raise your arms high overhead. Look for any changes in contour, a swelling, dimpling of skin or changes in nipple. Rest palms on hips, press down firmly to flex chest muscles. Left and right breast will not exactly match.

Russell Kirk

3. Lying down.

To examine right breast, put pillow or folded towel under right shoulder. Place right hand behind head to distribute breast tissue more evenly on chest. With left hand fingers flat, press gently in small circular motions around an imaginary clock face. Begin at the outermost top of right breast (12:00, move on to 1:00, and so on, around and back to 12:00). A ridge of firm tissue in the lower curve of each breast is normal. Make about three circles moving closer and including nipple. Slowly repeat procedure on left breast. Notice how breast structure feels. Finally squeeze nipple gently between thumb and index finger. Any discharge, clear or bloody, should be reported to your doctor immediately. The American Cancer Society wants you to know.

AMERICAN CANCER SOCIETY®

PRESIDENT'S PAGE

Peer Review and PRO

Last week, the Federal Government finally released the description and requirements for applying for the Utilization and Quality Control Peer Review Organization as defined in the Peer Review Improvement Act in 1982. At the same time, the Federal Government moved up the deadline date for submitting the proposal to April 27, 1984. Unlike PSRO, there is no money generated for startup cost and for writing the proposal. The physician controlled groups do not have a corner on the market with no guarantee that proposals would be accepted.

There are considerable startup costs involved in writing the proposal, preparing the bid for the contract, and hiring the necessary personnel to make the system run if the proposal is accepted. One of the requirements by the Federal Government is that the organization that receives the contract must be able to function within 45 days of receiving the contract. It has been estimated that the startup cost, if ASMA were to be the prime contractor, would run between $10,000 and $25,000 without any guarantee of getting the contract. It should be obvious that an organization of our size with a limited number of physicians cannot generate that increased expense without a heavy assessment to our members.

It was the feeling of the Executive Committee that this assessment was unwarranted in view of the lack of guarantee for receiving the contract. In addition, the major role of the prime contractor is collecting, analyzing, and providing data for the Federal Government.

What are the options available? ASMA could refuse to be involved in the PRO process to any extent; if no PRO were formed by October 1, 1984, the review contract could be awarded by the Federal Government to the fiscal intermediaries of the state which are Blue Cross and Aetna. The regulations, in terms of physicians involved in Peer Review by the fiscal intermediaries are more loosely worded and could be interpreted to allow physicians from outside of the State of Alaska, or Alaska physicians who are not primarily involved in the main process of delivering medical care, to provide Peer Review. Obviously, it is not in our best interest to have Alaska medicine being reviewed by either nonpracticing physicians or physicians outside our state. The other option is for ASMA and the Alaska physicians to be involved with a prime contractor to varying degrees.

After much consideration and analysis, the Executive Committee has entered into a contract with the Professional Review Organization/Washington in which PRO/W will submit a proposal as the prime contractor thereby incurring startup costs and will be responsible for data collection and reporting to the Federal Government. Our endorsement of PRO/W is contingent upon their contracting with the physicians in Alaska to provide the Peer Review. This solution has both advantages and disadvantages.

There are minimal frontend costs incurred by ASMA. PRO/W has a positive proven tract record of professional review. There is no risk to ASMA should the review organization fail. It allows us at least two years to review our options and formulate suggestions for improvement.

Alaska Physicians will now be sub-contractors to PRO/W and data collection will be removed from the State of Alaska. PRO/W is at risk with the Federal Government and should the program begin to fail due to nonparticipation or inefficiency of the Peer Review of Alaska physicians, then PRO/W will seek to correct those problems and terminate their contract for Peer Review with the physicians of Alaska.

The bottom line is if we physicians in the State of Alaska wish to maintain control over the review process of our practice of medicine, we will need to be actively involved in the Peer Review process. The time is gone when it was simply necessary to practice the best quality medicine that one could, maintain ones current skills, and deliver a caring service. The Federal Government and Insurance Companies are changing all of that. They now want accountability of how their health care dollars are being spent, and more than that they want to cut costs. This whole procedure is directed primarily at the hospitals which have the biggest slice of the health care costs. Physician costs to Medicare consist of only one fifth the total picture, but the Federal Government plans to use physicians to regulate hospital costs.

We could stick our heads in the sand and hope that this would blow over, but I feel that would be a serious mistake. We, the physicians of Alaska, are the experts in providing health care for the citizens of Alaska. We are familiar with the unique medical problems and logistic problems involved in our state. No one else has that expertise. Personally, I believe we practice a very efficient type of medicine, and I feel that when the data is collected, it will be shown. However, we must get actively involved in the Peer Review process.

What does that mean to you? We estimate that

with the number of Medicare patients who are seen and admitted to the hospital, roughly 50 charts per month will need to be reviewed for the entire state. We plan to have a pool of physicians to review these charts and have requested that the budget proposal include payment to those physicians doing the review process. Therefore, I would ask all of you to volunteer to serve in the Peer Review Process. If we all come forward, the amount of work which any single physician in the state need undertake would be very small.

You may recall the poster which states "Uncle Sam Needs You". Conjure a mental picture variation showing an Alaskan physician dressed in a parka with a frozen stethescope around his neck and gloved hand pointing at you saying "Alaska Medicine Needs You!"

Richard G. Parry, M.D., F.A.C.S.
President, ASMA

POST GRADUATE COURSES

July 14-18	**The First 12 Hours - Emergency Management of the Critically Ill:** Hilton Head Island, SC.*
July 26-29	**Advances in Cardiopulmonary and Critical Care Medicine:** Lake Geneva, WI.*
July 30-Aug 3	**The Office Management of Common Medical Disorders:** Ithaca, NY.*
August 27-30	**Review of Internal Medicine:** New York, NY.*
Septemer 24-28	**Kansas City, MO.** MKSAP VI Review Course covering the complete ACP home-study program.*

*INFO: Registrar, American College of Physicians, 4200 Pine Street, Philadelphia, PA 19104.

1984 Regional CME Meetings
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September 1-2	**Georgia:** Cloister Hotel, Sea Island, GA. INFO: Malcom I. Page, FACP, Department of Medicine, Rm B1W540, Medical College of Georgia, Augusta, GA 30912.
September 6-8	**Wisconsin:** Midway Motor Lodge, Brookfields, WI. INFO: Edwin J. Overbolt, FACP, Department of Medicine, Gundersen Medical Foundation, Gundersen Clinic, LaCrosse, WI 54602.
September 7-8	**South Dakota:** Sylvan Lake, Rapid City, SD. INFO: William R. Taylor, FACP, 201 South Lloyd Street, Aberdeen, SD 57401.
September 14-15	**Washington:** Seattle, WA. INFO: John D. Allen, FACP, Mason Clinic, 1100 9th Avenue, Seattle, WA 98101.
September 21-22	**Montana:** Heritage Inn, Great Falls, MT. INFO: Warren D. Bowman, Jr., FACP, Billings Clinic, Box 2555, Billings, MT 59103.
September 22-23	**Maine:** Atlantic House, Scarborough Beach, ME. INFO: Louis G. Bove, FACP, 233 Vaughan Street, Portland, ME 04102.
September 29-30	**Florida,** Miami, FL. INFO: Eugene R. Schiff, FACP, VA Medical Center, 1201 NW 16th Street, Miami, FL 33125.

ALASKA STATE MEDICAL SOCIETY AUXILIARY NEWS

Surrounded by towering mountains of Prince William Sound, Valdez is commonly referred to as the "Switzerland of Alaska" because of its pristine alpine beauty.

From June 8th-12th Valdez will be the site of this years' Alaska State Medical Society Convention. Plans are underway to make this a memorable experience. The Valdez Convention Center, where the actual meetings and exhibits will be housed, provides a setting that would be found in any large city; yet the recreation, fishing and sightseeing opportunities are the type found only in areas of the state which often prove difficult and expensive to reach. This, coupled with Valdez easy access by road, offers the opportunity for a memorable family vacation. Come join us and enjoy the scenery through a hike or a boat trip, tour the Pipeline facility, learn more about our state and enjoy the friendly people of Valdez.

Jane Erkmann,
President, ASMA

Anchorage Medical Society Auxiliary News
PECABU Wins $15,000 Grant

PECABU, the infant seat loaner program of the Anchorage Medical Society Auxiliary has just been awarded a $15,000 grant for the purchase of additional infant seats. Funds for the grant are available through the Municipality of Anchorage, Department of Health and Environmental Protection and the State Department of Highway and Public Safety. PECABU was also the recent winner of an award from The National Safety Council. The Auxiliary, which has already purchased 1100 infant seats since the opening of PECABU last April, will use the grant money to buy an additional 500 infant seats. Due to the tremendous public demand and the high birth rate, PECABU has been out of infant seats since January. The infant seats are loaned out for a 9 month period or until the infant is 20 pounds. A deposit of $15 is required with a $10 refund upon return of the seat. PECABU has two offices, one at Providence Hospital and one at Humana Hospital Alaska. The program is open to any Anchorage parent with newborns going home from the hospital, those who have infants several months old, and those short term use parents who are from out of town visiting family and friends.

The number one cause of death and injury among children ages 1-6 is motor vehicle accidents. PECABU's objective is to make infant seats readily and inexpensively available to the Anchorage community, encourage and stimulate the widespread use of infant safety seats and thereby reduce the number of infant mortalities and injuries due to automobile accidents.

Lorrie Horning
PECABU Co-Ordinator

February 27, Capital Building Juneau
Mike Lockwood, left, administrator and Dick Stetler, right, president of the board, both of Central Peninsula Hospital present to Representative Milo Fritz plaques honoring his contributions to the medical field and his fifty years of medical service.

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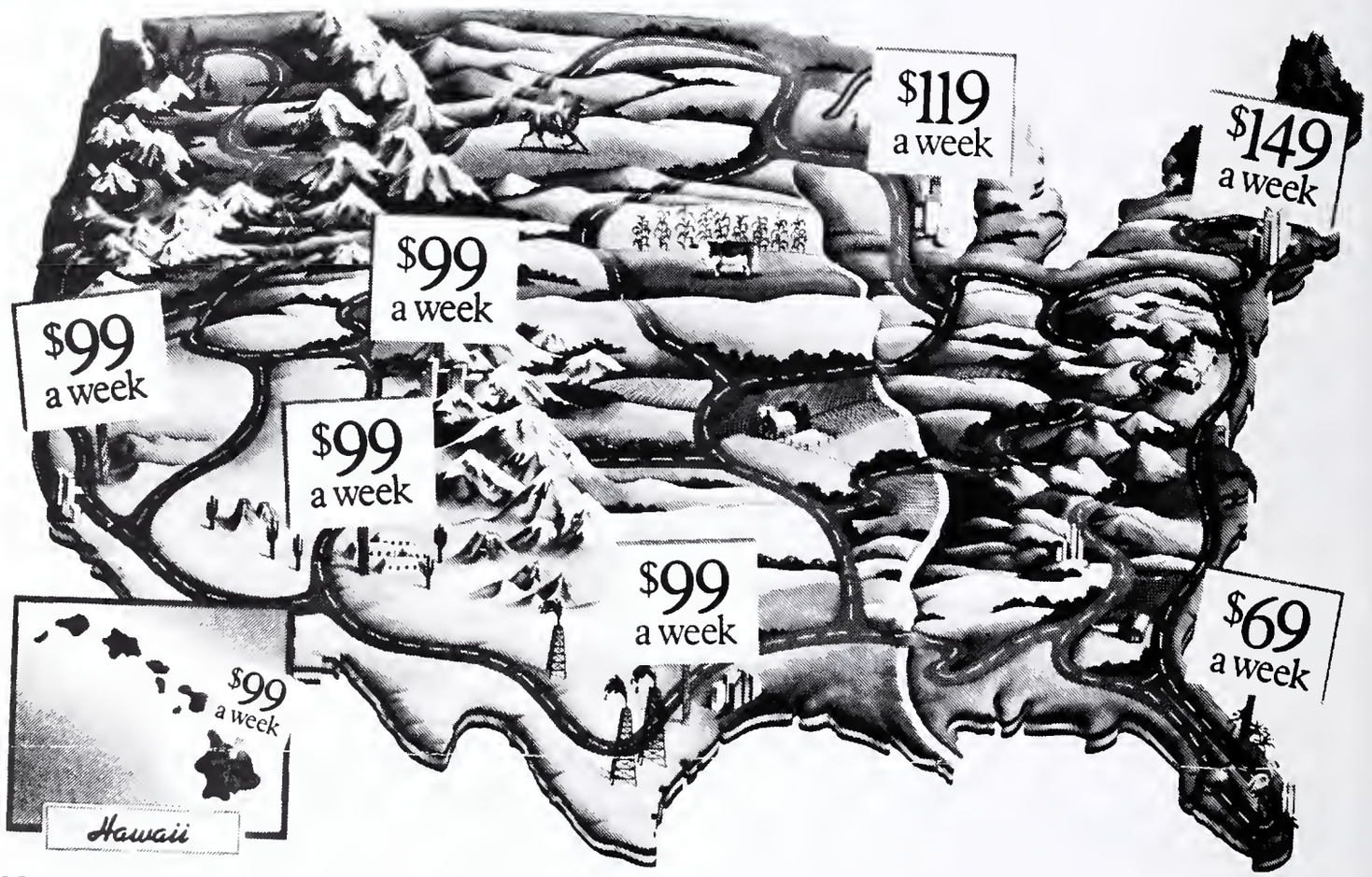

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J-4044 January 1984

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If you still believe in me, save me.

For nearly a hundred years, the Statue of Liberty has been America's most powerful symbol of freedom and hope. Today the corrosive action of almost a century of weather and salt air has eaten away at the iron framework; etched holes in the copper exterior.

On Ellis Island, where the ancestors of nearly half of all Americans first stepped onto American soil, the Immigration Center is now a hollow ruin.

Inspiring plans have been developed to restore the Statue and to create on Ellis Island a permanent museum celebrating the ethnic diversity of this country of immigrants. But unless restoration is begun now, these two landmarks in our nation's heritage could be closed at the very time America is celebrating their hundredth anniversaries. The 230 million dollars needed to carry out the work is needed now.

All of the money must come from private donations; the federal government is not raising the funds. This is consistent with the Statue's origins. The French people paid for its creation themselves. And America's businesses spearheaded the public contributions that were needed for its construction and for the pedestal.

The torch of liberty is everyone's to cherish. Could we hold up our heads as Americans if we allowed the time to come when she can no longer hold up hers?

Opportunities for Your Company.

OFFICIAL SPONSOR LIBERTY

You are invited to learn more about the advantages of corporate sponsorship during the nationwide promotions surrounding the restoration project. Write on your letterhead to: The Statue of Liberty-Ellis Island Foundation, Inc., 101 Park Ave, N.Y., N.Y. 10178.

Save these monuments. Send your personal tax deductible donation to: P.O. Box 1986, New York, N.Y. 10018. **The Statue of Liberty-Ellis Island Foundation, Inc.**

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UNIFORM COLLECTION SERVICE

Approved for ASMA Members

Members now have a uniform collection system approved for their use. It employs the latest techniques available, consistent with all requirements and provisions of the increasingly strick laws governing collection practices. The official announcement letter to members outlined the program, but did not go into the particular qualifications of the company chosen to serve the membership: I.C. System, Inc.

I.C. System has been in the collection business since 1938. It now serves the members of some 1,000 state businesses, professional associations, and societies all across the country. Last year the company collected an all-time record oa $46.9 million in past-due accounts.

All collection practices, procedures and materials used by I.C. System have been scrutinized by the Federal Trade Commission. So without reservation, all members can be assured that the company is fully aware of what can and cannot be done on behalf of its clients. I.C. System's hold harmless indemnity agreement assures members that there are no dangers of legal action resulting from collection activities carried out by the company on their behalf. That's particularly important in this age of consumerism.

Years ago, the most important consideration in selecting a collection service was to determine its ability to collect and its willingness to turn over to the creditor all the money he had coming to him. Today, such selection equally emphasizes the importance of entrusting one's own good name and reputation to the collection service -- a heavy responsibility.

Keeping pace with the increases in collections over the years has been the development of improved data processing and customer service departments. The company has a modern, tailor-made data processing system backed up by automatic typewriters, microfilm equipment and a complete in-house printing and mailing capability. This enables the company to keep pace with its growth and to respond immediately to customer needs and inquiries.

The company maintains a staff of customer relations personnel whose job it is to see that all customer inquiries are handled on a "right-now" basis. And for those situations in which the mail cannot carry information fast enough, the creditor can telephone the company via their toll free WATS line system.

Borrowing from the experience of users in other states, members who install the system should submit nine or more accounts immediately. Even if it's necessary to go back a year or more to come up with that many bad checks or written off accounts, it's well worth the effort. You can't expect as high a percentage of collections on the very old accounts, but the initial heavy use will get your people accustomed to working with the service and thus less likely to overlook future accounts as they become 60 to 90 days past due. A company representative will be happy to spend some time with your people to start things off on the right foot.

Those members who did not return the inquiry card enclosed with the original announcement letter can arrange to see a representative at a later date by simply contacting the ASMA office.

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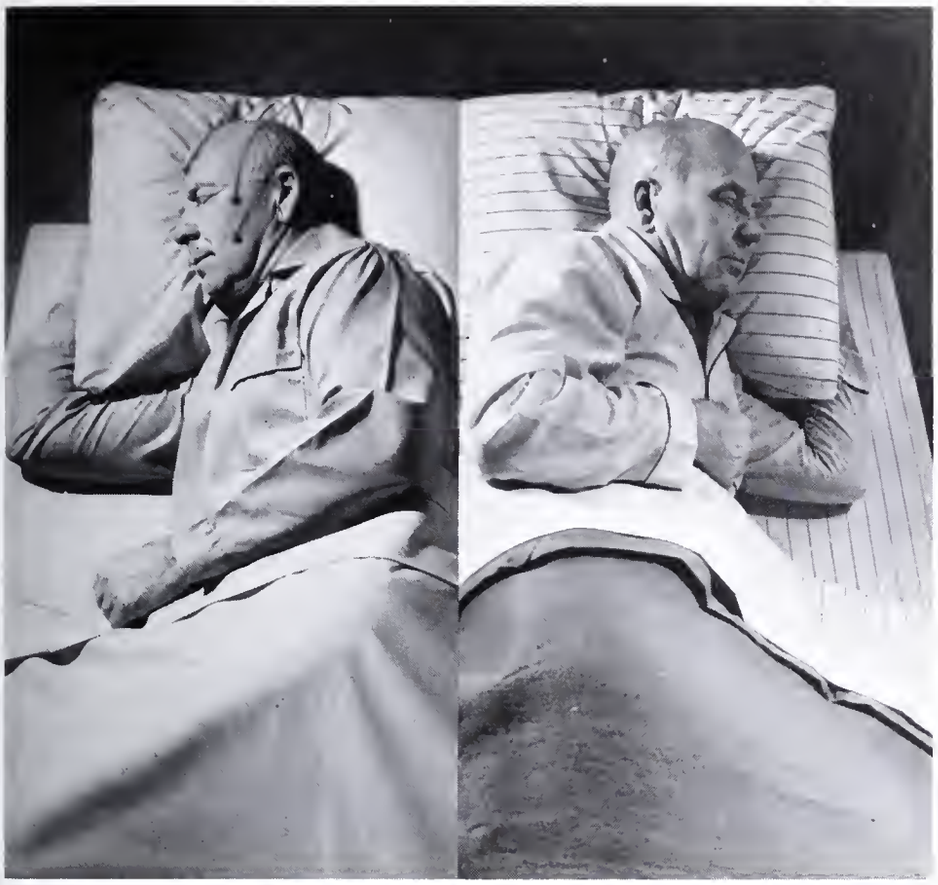

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References: 1. Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. 3. Kales A *et al*. *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR. *J Am Geriatr Soc* 27:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM. *Curr Ther Res 13*:18-22, Jan 1971. 9. Amrein R *et al*: *Drugs Exp Clin Res 9*(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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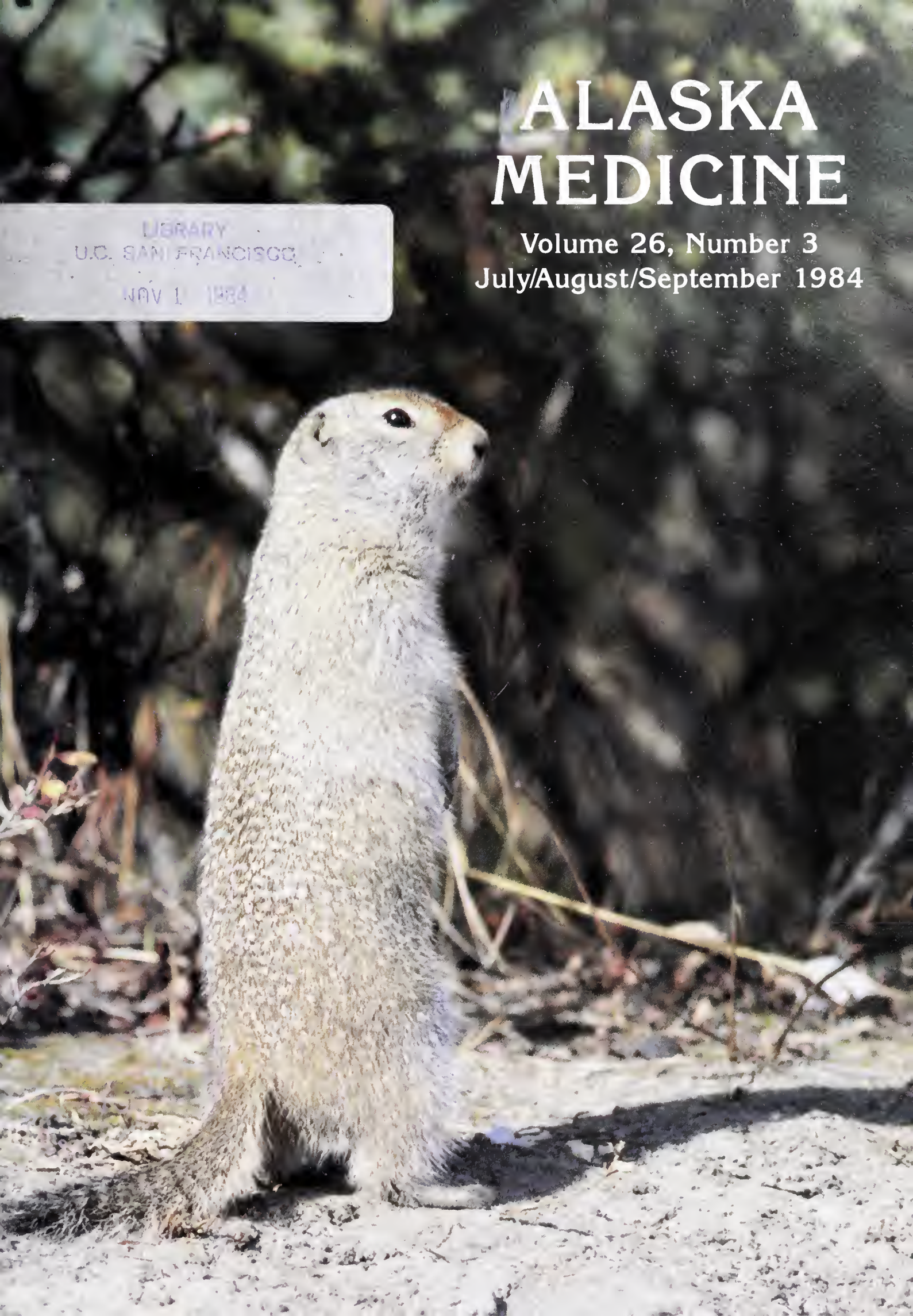

ALASKA MEDICINE

Volume 26, Number 3
July/August/September 1984

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Official Journal of the Alaska State Medical Association

4107 Laurel, Anchorage, Alaska 99508

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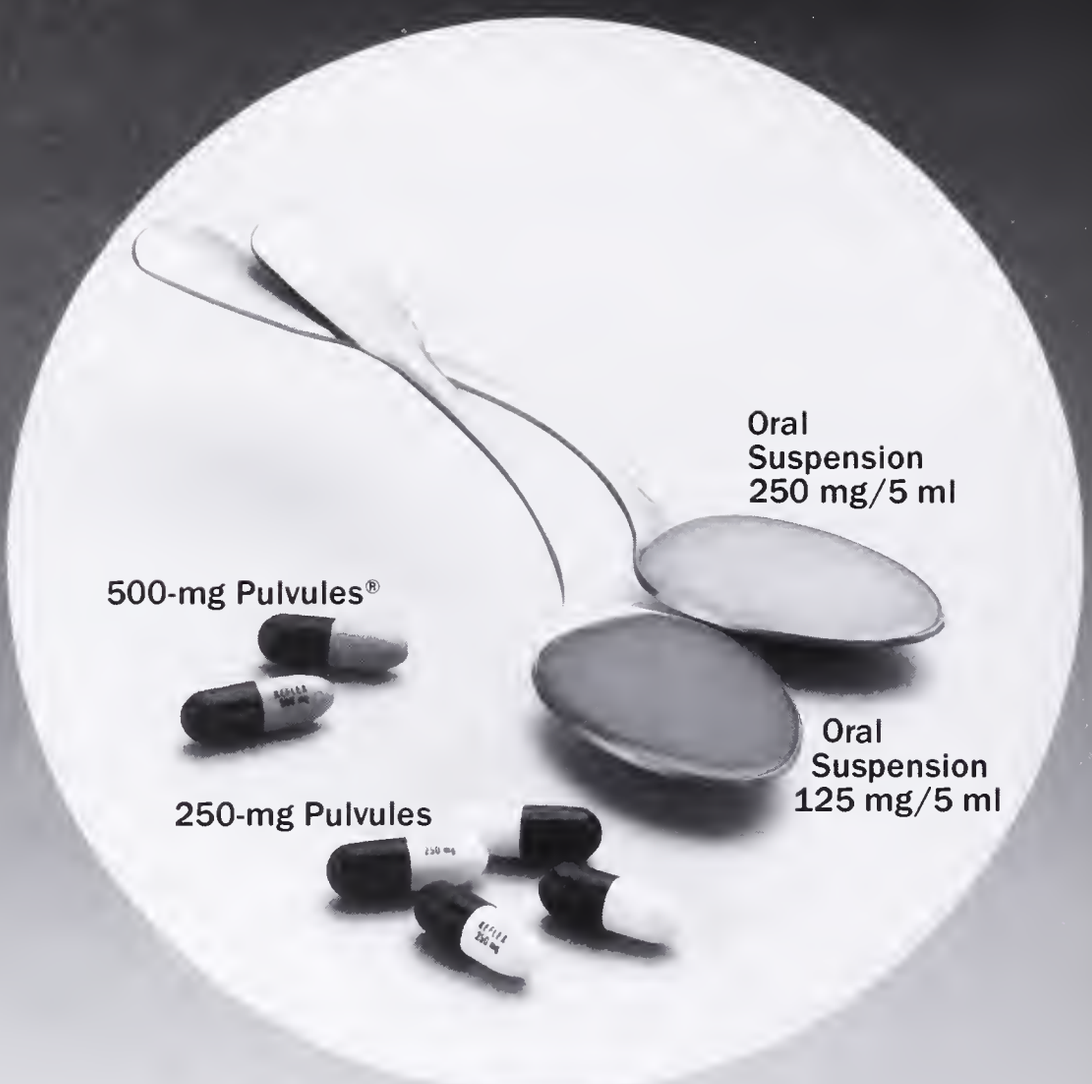

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MEDICINE AS A PRODUCT

Richard D. McEvoy, M.D.

"To be effective in the marketplace, corporations have to harness physicians to corporate goals, thus creating internal discipline and compliance; to be independent professionals, physicians have to be free to choose what they want for their patients. The government, economists, and leaders of large organizations favor the corporate strategy because it is a way of making physicians behave economically. Health care corporations often deny they seek power, saying that this power flows from impersonal forces of the market. This may be, but the forces of the market are powerful indeed and are fundamentally changing the way we practice medicine."

When an HMO president was asked how fee-for-service physicians might respond to his organization's activities he said: "We don't care. We don't even regard private physicians as legitimate competitors. We can always beat their price by 20 percent so we ignore them."

Richard Reece, Minnesota Medicine, November 1983

Minneapolis-St. Paul, Minnesota is on a cutting edge of the upheaval in the health care industry. The quiet tradition of independent professionalism which dignified the fee-for-service practice of medicine is disappearing in the wake of new high profile, intensely competitive, cost-cutting health care delivery systems. The Twin Cities have been called a "hot bed" of social/medical change. What the recent developments there will mean to the expense and quality of medicine has not yet been answered. There is no doubt that the changes have been difficult for physicians and hospitals alike. Having recently finished training there I have been asked to relate my impressions of the current milieu. Perhaps one day the practice of medicine in Alaska will parallel that in Minnesota. Many physicians hope it won't.

Why Minneapolis-St. Paul? The current struggle for control of health care evolved from economic, political and sociological factors which make the Twin Cities unique. The population of the greater metropolitan area is slightly more than two million. There are 40 hospitals, 27 of which are private or accept private patients. Two medical schools within 90 miles of each other (one in Minneapolis, the other in Rochester), graduate more than 300 doctors per year. Approximately 50 percent stay or return to the state to practice. Residency training is available in nearly every medical and surgical specialty. Result: A physician surplus greater than in most areas of the country. Minnesota has a long populist tradition which has borne several prominent liberal politicians including Walter Mondale and the late Hubert Humphrey. People are generally well-informed. Taxes are high and so is the demand for public services. If the 550 U.S. corporations with sales of more than one billion per year were distributed among states according to population, Minnesota would have seven. In fact it has 24. These corporations are determined to halt the rising cost of their medical benefits and are able to fashion policy with home office clout. These factors have fermented together for years, resulting in a large metropolitan area ripe for change.

One-third of the hospitals in the Twin Cities have an average census below 53 percent. Seventy-two percent of hospitals belong to at least one health care alliance. All want to "penetrate" a larger share of the health care market. Alternatives to fee-for-service medicine are numerous and patients are switching to these new alternatives.

Health Maintenance Organizations (HMOs) are health care plans which promise subscribers complete comprehensive health care for a preset dollar amount per month. They attract patients through well orchestrated advertising campaigns and promise no surprises, no paperwork, no deductibles and no extra bills. The large HMOs employ their own full time physicians. Some of the smaller

HMOs pay physicians on a fee-for-service basis usually at a reduced rate, or they may contract physicians to provide all needed care for a fixed annual fee per patient. Highly specialized work usually requires outside consultants who charge fee-for-service to the HMO, again at a reduced rate. A large HMO is able to control costs most effectively with its own organized medical staff, centralized communications and policies. Obviously the more subscribers an HMO has, the more easily it can offset the heavy expenses generated by "disaster" patients. In Minneapolis there are two traditional fee-for-service multispeciality clinics which serve an HMO plan as well. There are currently seven different HMOs in the Twin Cities with over 600,000 members. This accounts for 30 percent of the market share. A few HMO executives predict 60 percent of the market by the end of 1985. At General Mills more than 80 percent of the employees have chosen an HMO.

A unique HMO is the Physicians Health Plan (PHP). PHP is an Independent Physicians Association (IPA) model of an HMO. It was started in 1975 in Minneapolis and functions as an HMO without walls. Patients pay a preset premium each month. PHP represents the majority of Twin Cities private practioners. When the plan was started it nearly drowned in red ink, but over the years most of its problems have been ironed out. Management now imposes utilization controls that require many operations to be done on an outpatient basis (e.g. nearly all hand surgery), a.m. admissions for some operations, preauthorization for all elective hospital admissions and continuous review of hospitalized patients regarding reason for admission and length of stay. Certain services such as mental health, cosmetic surgery, pharmacy and chemical dependency treatment have even tighter controls. In addition, there are economic incentives for cost effectiveness. Fees may be reduced to conform to a maximum schedule, and 20 percent of the fees are held back till year end. If the plan does not break even, the 20 percent is used to offset operating deficits.

Recently PHP has instituted a new control device: high cost per procedure, high cost per outpatient visit or high aggregate cost per patient year will trigger a review of the individual physician's practice, and may result in the physician's share of the 20 percent being withheld. Physicians who see large numbers of patients and care for them at minimal expense stand to make the most. It would seem that withholding of needed services would be a danger of such a system, but apparently there has been no documented evidence of it in the Twin Cities to date (1).

One of the most interesting developments is the Blue Cross/Blue Shield AWARE program. Under this plan physicians and hospitals agree to accept preset dollar amounts as payment in full for services rendered according to a system of diagnostic codes which parallels the federal Diagnosis Related Group (DRG) system. It is essentially a private practice DRG system. Hospitals and physicians have rushed to become members. In the spring of 1983, when this system was instituted 20 of 27 hospitals signed up. By 1984 all eligible hospitals were members. Eighty-nine percent of Minnesota's physicians have become AWARE physicians. The plan requires physicians to accept preadmission authorization, refer only to participating physicians and accept utilizations controls (2). Physicians were surveyed in 1983 to determine the range of their fees, and these surveys will be repeated yearly. Physicians who sign up are reimbursed at the 85th percentile level of this fee range. Those who don't are reimbursed at the 55th percentile level. The projected savings to employers from the AWARE program is approximately ten percent. More than 650,000 patients are subscribers to the AWARE program, or 32 percent of the market.

Blue Cross and Blue Shield had physician input in devising the AWARE program. When first presented, however, there was resentment and reluctance on the part of many doctors to be named providers under the plan. Things have changed now, and many Twin Cities physicians feel that the AWARE program is their last chance to preserve fee-for-service medicine.

Preferred Provider Organizations (PPOs) are brokerage operations which bring together physicians and hospitals. These are in their infancy. They may involve several physicians and one hospital or many physicians and several hospitals. Some are "closed panel" (care must be obtained from one of the preferred providers) others are "open panel" (care may be obtained from providers outside the organization but patients incur expense as co-payors if they so choose). The PPO attracts patients and employers by offering less costly health care. It uses strict utilization controls and negotiates for reduced physician, hospital and pharmacy fees. Plans can be tailored for large or small employers, and employee consumption of health care dollars can be controlled by using positive and negative incentives such as co-payment, rebates, etc. In addition, employers are usually spared the capitation fee which HMOs demand.

Paul M. Ellwood, M.D. has developed a model for a hospital-physician joint venture also called Medical Staff-Hospital Partnership (MeSH) (3). It calls for the creation of a separate corporate unit half owned by the hospital and half owned by the medical staff. If functions to facilitate the management of risk associated with prospective payment and to distribute incentives equitably to those responsible for managing risk. The MeSH concept allows non-group practice physicians to participate in the prepaid environment, with hospitals as part-

ners without surrendering their autonomy. The MeSH is a firm itself in which participants can invest money and act as business partners. Outside ventures (e.g. satellite clinics, nursing homes, pharmacies, surgi-centers, or non-medical investments) can be used to offset cost overruns by hospitalized subscriber patients. The MeSH concept promises, at least in theory, the physician cohesiveness of a large group and the hospital physician rapport which is threatened with extinction in light of recent Twin Cities developments. To my knowledge there are no operational MeSH units in Minneapolis-St. Paul.

In recent years some hospitals have gone out of business, most are struggling to increase their market share. Radio, newspaper, and television advertising is commonplace. Some hospitals have merged into large units each specializing in certain areas, each keyed toward cost effectiveness and thereby enhancing its negotiating ability. Several have backed PPOs, built urgi-centers (there are 20 in operation) or surgi-centers (there are 6). Most hospitals have expanded their marketing staffs and are beginning to function as broadly based health care corporations, posed toward the future.

Physicians are aggregating to form big groups and eagerly signing up for plans such as the AWARE. Large groups compete for high volume employer or health plan contracts.

The effects of these changes on medical care costs are not yet known. Some employers are becoming disgruntled with HMOs as they have not yet realized a significant decrease in their health care bills, and are offering financial backing for developing PPOs.

What do the patients think? Dr. Stanley R. Maxeiner, a Minneapolis general surgeon:

"Will patients sign up for something like this? Will they really give up their own physicians or their freedom to choose a personal physician? The answer is: Yes, for the dollar. It is common in the Twin Cities for physicians to be asked to deliver to a prepay system medical records of established patients of long-standing. Loyalty is a thin buffer. HMOs attract not strangers only."

The physician who provides adequate low cost health care to large numbers of patients is a valuable asset to this new breed of health care plan. On the other hand, a physician who cares for the very sick or difficult patients provides high profile, high consumption, expensive care, and may not be an asset. The doctor whose patients have for years generated large hospital bills is no longer the favorite of the hospital administrator, and in fact may suddenly become a "problem".

Some Twin Cities physicians have taken the recent developments in stride and adapted to the new plans quickly. Many, however, harbor misgivings about the quality of health care in the future. They feel that the new plans implicitly discourage thoroughness and discriminate against physicians who attract more difficult patients. In order to remain solvent the big health care plans must deny "excessive" or "unnecessary" services. This is not difficult for an administrator or a secretary to do, they don't have to look the patient in the eye. The doctor does, however, and few enjoy playing Scrooge. Physicians are pitted against physicians in trying to win big group contracts. Power gravitates toward hospital and health plan administrators who are frequently at odds with the independent physician who wants to give quality care as he sees fit. The threat of malpractice is unchanged; while doctors are under increasing pressure to cut costs, no one has offered to assume the liability they might incur by skipping a lab test or neglecting to obtain a consultation. In fact, some malpractice carriers have set strict limitations on the degree of liability they are willing to assume for physicians associated with prepaid plans.

Doctors who are slow to react to the recent events may find increasing empty spots in their appointment schedules. Without a doubt, there are decreasing practice opportunities for young doctors in Minneapolis-St. Paul. Older doctors speak of a decreasing sense of personal satisfaction. Anxiety about the future runs deep in the Twin Cities area and it is perhaps best expressed by Richard Reece:

"Before the present competitive mood evolved, most physicians would have agreed with these general propositions: 1). Medicine is not a business because it deals with people and not products; 2). Physicians are not businessmen, but independent professionals. Moreover, it was considered poor form to even talk about the business decisions of practice. Why talk about them? After all, given reasonable professional competence, financial rewards would follow. The only things that really counted for success, the truism went, were ability, affability and availability -- not necessarily in that order.

These propositions are no longer worth a damn. Most of us are now professionals who depend on businessmen, and we are a central part of the multibillion dollar industry from which we receive perhaps 15 percent of the income and make 70 percent of the decisions. Being a physician-businessman is no longer a moral stigma: it is becoming an indispensable asset.

Yet, despite our earning and spending power and collective clout, physicians are confused about the present and despair for our future. We regard ourselves as passive victims of huge forces -- big government, big business, and big third parties. We see large blocks of potential patients snatched from our grasp before we can show them our skills or bedside manner; we see

impersonal brokers who know little about patient care decide our destiny; we see corporations flooding the printed pages, radio airways, and televisions with seductive and often deceptive messages about low cost, comprehensive and quality care; and we wonder how we can compete for patients or even defend them against the blandishments of businessmen. As individuals, we are depressed, disillusioned and even disgusted."

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CHEMONUCLEOLYSIS

Michael Newman, M.D.

Disc herniation is one of the most common medical problems in the United States today. The number of new cases annually extends to the hundreds of thousands. In 1978, a typical year, 160,000 laminectomies were performed for intervertebral disc disease. Around the turn of the century, Mixter and Barr first described the laminectomy operation which has been standard treatment for resistent disc rupture. Disc dissolution with the use of proteolytic enzymes offers a whole new approach to the problem and promises to provide a dramatic decrease in medical morbidity and the economic burden of the condition. The purpose of this article is to review in a basic way the rationale, history of development, and current practice of chemonucleolysis with chymopapain and other enzymes.

Chemonucleolysis or chemical dissolution of the intervertebral disc was the conceptual and practical discovery of Dr. Lyman Smith. In the late 1950's, postulating enzymatic digestion of a ruptured disc would relieve the pressure on the intervertebral nerve roots, Dr. Smith worked with a variety of enzymes in animals and ultimately settled on papain. Papain was well known at the time as a specific enzyme which hydrolysed the protein core of acid mucopolysaccarides. This makes it relatively selective for the nucleus pulposus of the intervertebral disc which is composed primarily of mucoprotein. In vitro it has been shown to measurably decrease disc tissue mass within four hours with biochemical byproducts measurable in the supernatent within 24 hours (1). In human studies there is an increase in chondroitin-6-sulfate in the patient's urine within 24 hours after intradiscal injection of chymopapain (2). Once released into the systemic circulation, chymopapain is rapidly bound by an alpha-2-macroglobulin which inactivates the enzyme.

The toxicity of the enzyme is quite limited. In animal studies it has been shown 1000 times the therapeutic dose of chymopapain can be tolerated in the epidural space without neurological impairment of chronic inflammatory reaction (3). Intrathecal injection is probably not as well tolerated but still the neurotoxicity is low. The enzyme will digest the proteoglycan ground substance which binds endothelial cells in the microvasculature. In the intrathecal space there are large microvascular plexuses susceptible to enzyme. Massive intrathecal hemorrhage has occurred with a resultant increase in the cerebral spinal fluid pressure and death. Mortality may be prevented by venting the intrathecal space.

Rhesus monkeys are able to tolerate an intrathecal dosage of 2.5 mg per kilogram, which if extrapolated to man would indicate a human could withstand an intrathecal injection of 100 mg in contrast to the therapeutic dose of 3-4 mg (4). In spite of this the theoretical objections to intrathecal use exists and for that reason a lateral extradural approach for injection of the enzyme has been recommended.

Studies concerning neurotoxicity indicate that there is no effect on the nerve directly but following direct application of fairly massive doses of the enzyme microvascular hemorrhage occurs. Resulting nerve dysfunction due to ischemia and edema does occur and may be permanent (5). Evidence from large controlled human series would indicated if there is a risk of neurotoxicity to the exposed nerve roots, it is very slight.

In 1963 Dr. Lyman Smith satisfied with the preliminary animal studies on toxicity and therapeutic effects, injected the first 10 human beings with intervertebral disc ruptures (6). Seven of ten did well in spite of the fact that several patients had previous laminectomies (patients known to have a high failure rate with chemonucleolysis).

Doctors Smith and Mark Brown were encouraged to procede with the first relatively large scale clinical series of chymopapain chemonucleolysis (7). They treated a series of 75 patients which were

reported in the Journal of Bone and Joint Surgery in 1967. The observations of the study and their conclusions have been duplicated and substantiated in larger series over the years. Their fundamental observations remain unchanged and are worthy of review.

Following the injection of chymopapain, almost all patients had some relief of back and leg pain which progressed to good or excellent results within 4-6 weeks in 86% of 53 patients without previous spinal surgery. In 22 patients who had undergone previous laminectomy, the results were poor. There were several complications illustrative of theoretical and real problems with the use of chymopapain.

There was one patient made paraplegic. He had a difficult transdural injecton with multiple punctures. At subsequent surgery he was found to have severe subarachnoid hemorrhage. Regardless of whether or not the hemorrhage was caused by punctures or by the inadvertant intrathecal injection of chymopapain, an extradural approach is needed.

Another patient had anaphylaxis when he had a second chymopapain injection at a second level 3 weeks after the first injected level. This complication has proven to be the major difficulty in chemonucleolysis with chymopapain.

One patient in the group had a cervical disc injection at C6-7 without benefit of myelogram. The patient subsequently developed a Brown-Sequard syndrome and on further evaluation was found to have a malignant hemangioendothelioma.

The enzyme used by Dr. Lyman Smith in the initial studies was Discase, a crystalline form of purified chymopapain marketed by Baxter-Travenol. As part of the application FDA approved a wide spread clinical investigation in multiple centers. Between 1967 and 1975 some 13,700 patients were treated. Nordby and Lucas compared 100 consecutive patients treated by laminectomy and 100 consecutive patients treated with chymopapain (8). In their study, surgery produced aceptable results in 68% and chemonucleolysis produced acceptable results in 90%. Chemonucleolysis patients in the study returned to work at an average of 66 days versus 202 days following laminectomy. Leon Wilsey reported 1200 patients with an 80% satisfactory symptomatic relief with chemonucleolysis (9).

In 1977 the complications in the 13,700 patients were summarized by Clark Watts (10). There were 401 complications including 1.5% sensitivity reactions. Of the sensitivity reactions anaphylaxis occurred in 25 patients or 0.2% of the total. There was one death due to septicemia following a disc space infection and other deaths due to medical conditions unrelated to the enzyme treatment. In spite of good results, a great deal of controversy persists over the safety and efficiency of chymopapain use.

Between 1977 and 1983 the drug was tied up in FDA trials. During this time an extensive clinical experience in Canada was accumulated showing the beneficial effect of chemonucleolysis with chymopapain. The FDA studies culminated in a triple blind study in which patients either received chymopapain, saline or the dilutant for the drug (11). Ultimately 11% of the Discase injected patients required surgery for relief of sciatica whereas in both of the control groups there was a reoperation rate of over 40%. The results were followed over time. The 78% good results obtained with chymopapain were well maintained, while those obtained with placebo dropped off to about 20% at 12 weeks.

Finally with a mass of clinical data in early 1983, chymopapain was released for general use by the FDA. At the present time chymopapain is recommended by the manufacturers and in the medical literature for relief of sciatica due to ruptured discs in patients who would otherwise be candidates for surgical disc excision. As it is presently performed, chemonucleolysis is generally an inpatient procedure because of the risk of anaphylaxis. Almost all anaphylaxis occurs within a few hours. Some centers are experimenting with outpatient use of the drug. However, cases of anaphylaxis have been reported as late as 24 hours after the injection. Because of the anaphylaxis problem all patients are currently pretreated with cimetidine (Tagamet), diphenhydramine hydrochloride (Benadryl), and intravenous hydrocortisone given just prior to the injection. While these drugs will certainly not prevent anaphylaxis, they may ameliorate some of the associated anaphylactoid features.

The procedure is done under either local or general anesthesia. Most centers now utilize general anesthesia both for the comfort of the patient and because an endotracheal airway can be maintained in the event of anaphylaxis. Severe back pain complicates the procedure in approximately 30% of the cases, and some of the patients do require an additional few days in the hospital. The majority of patients are discharged the day after the procedure. Typically in those patients having good results, a noticeable improvement in back and leg pain occurs within a few hours after the injection with continued improvement up to 6 weeks post-operatively. At 6 weeks if there has been no improvement, surgical disc excision is recommended.

Chymopapain appears to be an effective method of treating disc prolapse with sciatica. The safety is comparable to operative treatment. In the event of failure, surgical disc excision can be performed without compromise. There are some disc symptoms for which surgery is still the preferred treatment. In cases of acute cauda equina compression disc fragments, emergent removal of the disc

material is preferred because permanent neurologic damage can occur if the neural pressure is not removed immediately. This may also apply in other disc prolapses where severe neurologic compromise has occurred.

Chemonucleolysis with chymopapain obviously cannot be performed in patients with a history of sensitivity to the drug which has wide availability in over the counter preparations to "aid digestion". The various products are labelled "papain enzyme" or "papase". Skin testing for sensitivity preoperatively is used in some centers and serum antibody testing is also available. Chymopapain should not be given during pregnancy because of the anaphylaxis potential.

Chemonucleolysis with chymopapain will likely assume a permanent place in the treatment of disc disease and will probably be joined in the near future by other proteolytic agents such as collagenase. Whether the excellent results obtained in the controlled studies will be obtained in the general usage of the drug remains to be seen.

In the author's experience, in 18 cases with minimum 3 months followup there were 10 good results and and 8 poor results. Seven patients had subsequent surgery, most for extradural fragments.

These results are not comparable to the larger series and the numbers are not statistically significant. In any case, over half the patients avoided surgery. It is hoped that better preoperative identification of patients with extruded fragments will improve the results.

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HYPOTHERMIA:

THE CAUSE OF DEATH AFTER RESCUE

Dr. E. LL. Lloyd, MB, FRCPE, FFARCS

Abstract

The "after drop" of core temperature which occurs after a person has been rescued from the cold can no longer be considered the cause of death. The cardiovascular changes which occur during the rewarming of sheep are assessed and a hypothesis is built around the results and their interpretation. A number of clinical situations are examined and seem to fit the hypothesis that death occurs after rescue when there is an imbalance between the circulating volume affected by the reversal of fluid shifts, and the size of the vascular bed controlled by the vasomotor tone.

Introduction

When a person dies after having been rescued alive but hypothermic, the traditional diagnosis is that the death is due to ventricular fibrillation (VF) triggered by the "after drop" of core temperature (1-10). However, no explanation is forthcoming as to why a particular core temperature is more dangerous during the "after drop" than during continued cooling. Recent work has shown that in fact all the phenomena of the "after drop" can be understood in terms of the normal physics of heat transfer (11-16).

Golden has suggested that the collapse of people following rescue from the sea is due to hypovolemia occuring secondary to the removal of the hydrostatic squeeze, and that part of the success of the hot bath treatment is due to the early restoration of this squeeze (17). Unfortunately since in both situations the body is lying horizontally near the surface of the water the magnitude of the hydrostatic squeeze will be minimal. Also since similar cases of collapse can occur following land rescue, the hydrostatic squeeze cannot be the complete answer.

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Evidence

In sheep during spontaneous rewarming from immersion hypothermia the blood pressure drops despite a rise in cardiac output (18). The cause is a drop in peripheral resistance which cannot be compensated for by the small rise in cardiac output. Since the central venous pressure (CVP) also falls, the drop in arterial pressure is also related to hypolovemia. However, when sheep are immersed in a hot bath, though the peripheral resistance falls as expected, the CVP rises immediately and steadily. Because of this the cardiac output increases very greatly and the arterial pressure rises.

In the spontaneously warming group, removal from the cold water and surface insulation would reduce the cold sensory input from skin receptors. This sudden drop in sensory input might result in a reduction in the cold induced vasoconstrictor tone leading to the drop in arterial pressure.

During cooling there is a shift in body fluid from the intravascular into the interstitial spaces and into the cells causing generalized edema and slight cellular edema (8). These shifts reverse on rewarming (2,8,19-21). The fluid shifts must be considered during rewarming, especially as the severity of the shifts which occur during cooling are directly reated to the duration of cold exposure (2,22). Since the superficial tissues have been exposed to the cold for the longest time during cooling, they will experience the greatest fluid shifts. The surface heat of a hot bath would affect these tissues most and would therefore reverse the shifts very rapidly causing a rise in CVP. Therefore the

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The Medical Record: Shield, or Sword of Damocles?

"The weakest ink lasts longer than the strongest memory." (Proverb)

To the physician concerned with minimizing potential medical malpractice claims, the medical record often provides the simplest and most economical defense. When reasonable medical care has been delivered, a properly prepared medical record serves as a virtually impenetrable barrier between the doctor and the angry allegations of negligence from an unhappy patient. Because the law is concerned with evidence and not truth, however, plaintiff's attorneys see dollar signs when they see poorly prepared medical records: ambiguity, incompleteness or frank error rapidly translate to greenbacks at the settlement table or at trial.

Physicians must bear in mind that they may not be called upon to testify in a given case until many years have elapsed from the time the patient was seen. In New York City, for example, cases are not brought to trial until approximately seven years after the suits have been filed. In Alaska, a child may wait until he or she reaches the age of majority before bringing suit alleging negligence in, say, prenatal care. The suit may then take years to get to trial. What physician is likely to remember the not-unusual matters of medical practice which transpired 18 or more years ago? The law is stern: if a physician's records do not contain information on a particular point, and if the physician does not have a solid recollection of that information, then the patient's version of the information will be accepted as the only evidence on that point. If the needed information is central to the physician's defense, the physician will lose the case.

Medical records must be recorded and stored with care. They must be prepared as close to the time of the events recorded as is reasonably possible. One Alaska physician was sued for malpractice after an adverse result following a surgical procedure. The procedure was one which resulted in 1% to 5% of patients suffering that adverse result, even in the absence of negligence. The surgeon did not dictate a formal note until the following day, possibly after learning of the presence of the adverse result. The trial court indicated that "careless habits of record keeping should be viewed as badges of suspicion." The trial was four years after the surgery. Because the physician had no independent recollection of the procedure at the time of trial the court found that he could not produce facts to refute the claim of negligence. The physician lost the case--not because he had actually been negligent, but because he could not produce evidence to show that he had been free of negligence. In our system of justice, the truth is irrelevant--it's the evidence which counts. Medical records should be prepared so that they will provide that evidence.

In theory, the office records of a private practitioner belong to that doctor, and not to the patient. In fact, it is usually unwise, and almost always impossible, to prevent a patient from gaining access to the medical record. Withholding a patient's chart in an effort to coerce payment of a bill often results in patient unhappiness, and a subsequent claim of malpractice. No court will allow withholding of a medical record in order to defeat a patient's claim of malpractice. For these reasons, it is sound policy to assume that at some point a court may order that a patient be given reasonable access to the material in the medical record.

Physicians should be tactful about what is written in a medical record; grossly inaccurate statements may lead to a suit for libel, even though quality medical care had been provided. Consider the plight of the doctor who writes (as did one doctor who belatedly approached me for advice), "I think this patient is gay." If the patient is bisexual, and the chart is read by somebody other than just the doctor, the physician may be liable for defamation, and may not have a viable defense to the suit. It is far wiser for the physician to merely record relevant facts, leaving the conclusion for the reader to draw. In the example just given, had the doctor written, "patient denies homosexual activity", no grounds for suit would have been presented.

"careless habits of record keeping should be viewed as badges of suspicion"

Even if all of the information in the chart is accurate, the doctor can be held liable for damages if he or she releases medical information about a patient without a patient's consent. Unless the physician is making a report required by statute or administrative regulation, it is wise for the physician to first obtain a consent for the release of medical information. Such consents should be in writing, should be dated, and should state to whom the records are to be sent. They should indicate the nature of the records to be released (i.e. "all medical records regarding my low back injury"). They should, of course, be signed by the patient or the patient's guardian.

Sometimes it is impractical or even impossible for a physician to obtain written consent to release records. In such cases, the doctor should obtain the verbal consent of the patient, since consent in some form must always be obtained prior to release of the information. The doctor should promptly make an appropriate chart note.

For a medical record to be helpful, it must be available. Doctors who send original records--such as X-rays--out of their offices, imperil their ability to successfully defend themselves against future claims for malpractice. Courts will, of course, be sympathetic to the physician who courteously sent a patient's X-rays to another doctor's office, where they became lost. Sympathy is no substitute for evidence, however, and it is evidence which wins cases. Whenever possible, a copy of the record should be sent. If an original must be delivered, a messenger should hand-carry and return it.

Physicians should bear in mind that the appearance of the medical record may be as important as the substantive information it contains. A record which appears to have been altered will be suspect, even if the "alteration"

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was the most innocent correction of a simple spelling error. If a physician obliterates a word, thereby making it impossible to be read, that doctor may be terribly embarrassed before a jury during cross-examination. "Doctor, it is true, is it not, that you deliberately and with the specific intent to do so, rendered that word incapable of being read? You are now telling us that while you can't read the word, and can't recall the word, we should just believe you when you say that it was probably a spelling error you were trying to hide?"

If an error is made while preparing a medical record, a single line should be drawn through the erroneous portion, the record should be dated, initialed, and the reasons for the alteration given. This rule, if followed, will insure protection for the physician, but requires an enormous amount of compulsiveness. A doctor opting not to follow this rule would do well to date, intial and explain any changes made if there is even a remote chance that the change might appear to be for improper reasons. In any event, a physician should NEVER render a prior entry incapable of being read.

If a judge or jury learns that a record has been deliberately altered for improper reasons, the physician will thereupon immediately lose the case. It is as simple as that. Even if the physician had a solid defense on the merits, the case will effectively have ended. The only question left for determination will be, "how much?" This point cannot be over stressed. Consider the following example, taken from a case I had several years ago:

A patient went to a physician's assistant, complaining of chest pain. An ECG was obtained, but no interpretation was recorded. The following day the patient returned to the PA, this time complaining of crushing chest pain and diaphoresis. A second ECG was obtained. The PA did not record an interpretation of this ECG either, but medevac'd the patient to a city where the patient could seek more advanced medical care. The patient saw an internist, who again obtained an ECG. The internist told the patient that the discomfort was of gastric, not cardiac, origin, and sent the patient home. The patient returned the following morning, told the doctor that he was having a "heart attack", and insisted that the doctor send the patient by ambulance to a local hospital. The doctor obtained a fourth ECG, then--only to appease his angry patient--requested an ambulance to transport the patient to the hospital for admission. While awaiting the ambulance, the physician wrote "Normal tracing" on each of the ECG's. He copied the tracings on his office copying machine, and sent the originals along with the patient.

After the patient was admitted,

PHOTO BY CHRIS GIBBS

laboratory data indicated that the patient was indeed having an MI. After arriving at the hospital, the physician altered his prior interpretation by attaching the prefix "Ab" before the "Normal" on each of the tracings. The result was that his interpretations began "AbNormal tracing". The doctor then added some additional interpretive remarks.

Because the doctor did not alter the copies he had retained, a discrepancy existed between the hospital and office records. In the normal course of case preparation, I obtained both sets of records. At that point the case lost any significant resemblance to a malpractice case, and appeared to be straightforward Watergate. The physician had cheated. Perhaps his motives were pure; still, he had cheated. Had the case proceeded to trial on a question of negligence, the physician simply could not have won--even if a bevy of cardiologists had been available to testify that his first interpretation had not been unreasonable. The doctor would have had a viable defense had he written, say, "Above interpretation possibly in error, in light of laboratory results. Possible inferior subendocardial MI." Instead, he had cast doubt upon the validity of all of his entries in the record, upon all of his opinions, and upon his personal trustworthiness. Such conduct is a dangerous form of foolishness.

The medical profession has earned a position of high privilege in our society. Our social institutions, such as courts, will not tolerate an abuse of that privilege. When an allegation of professional wrongdoing has been made, the physician will be required to respond with evidence to rebut the allegation. Because the demand may come years after the conduct complained of, only accurate, written information recorded as close to the time of the occurence as was reasonably possible can form the basis for the physician's defense. Courts will expect physicians to produce such evidence. They will scrutinize a doctor's verbal and written evidence for accuracy and trustworthiness. If the evidence shows that the medical care had been reasonable, the doctor will prevail. A good defense lawyer can smooth out a lot of rough spots in the case, but none can erase a stain of dishonesty.

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cardiac output would be able to rise sufficiently to produce a rise in arterial pressure, despite the fall in peripheral resistance caused by the substitution of a warm skin stimulus for a cold one. The fact that in the hot bath group the pulmonary arterial pressure remains higher than in the group warming spontaneously may indicate a slight degree of pulmonary fluid overload which could possibly be precipitated into pulmonary edema by cardiac insufficiency or added fluid overload.

Hypothesis

Survival during rewarming from accidental hypothermia is dependent upon a balance being achieved between the size of the vascular bed controlled by vasomotor tone and the circulating blood volume which is mainly affected by the extent and rate of reversal of fluid shifts which have occured during cooling.

If the relaxation of the vasoconstrictor tone predominates, death will occur through relative hypovolemia, whereas excessive reversal of the fluid shifts will cause cardiac failure and death from fluid overload.

Supporting Clinical Evidence

1)—Similarity is noted between the findings in sheep, the clinical observations of bradycardia occuring during spontaneous rewarming and the fact that many patients admitted to the hospital with a reasonable blood pressure develop a variable degree of hypotension after admission (2, 18, 23-25).

2)—Moderate surface warming is usually condemned as being dangerous when compared to rapid rewarming in a hot bath or slow spontaneous rewarming (2). This has been based on survival results and has been disputed by case results (26). Some of the controversy may be due to ignorance of fluid shift roles.

Warmth to the skin would provide a greater reduction in the cold induced vasoconstriction than would simple insulation (27). The outcome would therefore depend on the degree of reversal of the fluid shifts. Warm blankets would provide a large sensory input of warmth with a very small quantity of heat transfer to the tissues. There would be very little fluid return to the intravascular space while accompanied by a large drop in peripheral resistance and consequent hypovolemic hypotension. A hot water circulating blanket on the other hand might provide sufficient heat transfer to cause significant fluid shifts and maintain this circulating blood volume in spite of the drop in peripheral resistance (26).

(3)—The usual reason for advocating early post-rescue period immersion in a hot bath is the decrease or shortening of the "after drop" of body temperature as measured rectally (13, 22). It has been shown that the "after drop" of core temperature does not occur in the pulmonary vein (15, 18). The beneficial effects on fluid balance will be present if the hot bath is used early, but if after rescue the casualty has already adjusted to the loss of vasoconstrictor tone and has an adequate blood pressure, the fluid shifts caused by the hot bath could be dangerous.

The observation that immersion in a hot bath has revived many patients who were unconscious and pulseless when brought off the mountains is attributed to a rapid raising of the total body temperature (28). However, the initial moribund state can be due to hypovolemic hypotension following surface insulation plus some additional effect from the movement of the casualty during transport (23-25). Immersion in a hot bath would cause a rapid reversal of the hypothermic fluid shifts (auto-infusion) and the effect would be more rapid because the fall in peripheral resistance has already occured. The imposition of a small hydrostatic squeeze plus the rapid rise in body temperature could have additional benefits.

4)—If patients have been exposed to cold or are mildly hypothermic for prolonged periods, the intercompartmental shifts of the body fluids will have had longer to develop and might therefore be expected to be greater than in acute hypothermia (25). During rewarming there is greater potential for reversal and the more rapid the rewarming the greater the surge of fluid into the vascular system and the risk of fluid overload with pulmonary edema.

It is observed that many patients being rewarmed from prolonged induced hypothermia develop pulmonary and/or cerebral edema. The incidence is related to the speed of rewarming (29). Recooling resolves the problem presumably by reversing or slowing the fluid shifts. In some patients the excess rewarming rate can occur spontaneously without added heat (29).

If elderly patients are rewarmed too rapidly many die. Since many elderly patients are reported to live in cold houses they will have been exposed to cold for prolonged period before the final episode. If the rewarming is too rapid, even if spontaneous, the fluid overload could be lethal. Any method which accelerates rewarming will be dangerous unless intensive care facilities are available to control changes (6, 25, 27).

Conclusions

Death following rescue is most commonly due either to inadequate venous return, or to fluid overload. The situation in any individual case will be the result of an interaction of several factors - loss of vasomotor tone, fluid shifts, and the efficiency and health of the heart.

It should not be forgotten that death can still occur from VF due to mechanical irritation of the heart, or from a sudden surge of cold blood to the heart. Either of these may be caused by rough handling of the casualty.

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Help Save a Child's Life

The PECABU poster baby shown here is Jason Hanley, with his mother Gwen Hanley. They are the son and wife of John Hanley, M.D., Emergency Room Medicine, Providence Hospital.

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BUCKLE UP — SAVE A CHILD

Lorrie Horning

Profile of an Accident

The "typical" child who is killed is a one year old male infant riding in the front seat of a passenger care without a restraint on a clear or overcast day. The driver of the car is the mother who is also not wearing a seat belt. The accident occurs between 8 am and 3 pm within a few miles from home on a dry surface state route. The mother has not been drinking an alcoholic beverage and there are no defects in the family car that contribute to the accident (1).

Cost of an Accident

In the few seconds involved in an auto accident, a victim who is seriously injured may be transformed from a healthy individual to one who must spend the rest of his life in a wheelchair. It will require some 200 medical professionals, including paramedics, doctors, nurses and therapists, to save his life and care for him during a lengthy rehabilitation process. After initial emergency room treatment, the rehabilitation process begins with estimated costs ranging from $350,000 to $600,000 (2).

Statistics show two things: 1) only 1 out of 11 children are buckled in a safety restraint device and 2) 1 out of every 40 infants born this year will die in a motor vehicle while 1 out of 20 will be seriously injured.

More children die each year as a result of auto accidents than die from polio, diptheria, mumps and measles. Auto accidents kill more children than leukemia, crib death and spinal meningitis. Among children ages 1-6, motor vehicle collisions are the major cause of death and disability. According to the National Center for Health Statistics, in 1980, approximately 90,000 children under 6 years of age were injured by motor vehicle accidents. Children under 5 are at special risk because adult seat belt systems are not designed for their small, fragile, top-heavy body structure. Infant safety seats have been shown to reduce mortality in the under 5 group by as much as 90% and serious injury up to 78% (3). A two year project carried out by a Michigan Insurance Company was evaluated by the National Safety Administration. In the two year project which began in mid-1979, the company distributed 7,140 child safety seats to 58,000 policy holders. Injuries among children riding in cars involved in accidents and insured by the company declined 45% in the period compared to the preceding two years. Severe and fatal injuries were reduced 66.7% and claim costs declined by 76% (4).

One of the reasons most given for not using child restraints is the cost of purchasing the seat. A community organization, the Anchorage Medical Society Auxiliary began an Infant Seat Loaner Program last April to help the situation. Their objective is to make as many infant seats available as are needed in the community and as inexpensively as possible. They hope to encourage and stimulate the widespread use of infant safety seats and thereby reduce the number of infant mortalities and injuries due to automobile accidents. The program is called PECABU: Protect Every Child And Buckle Up. PECABU is open to any greater Anchorage area parent, regardless of income. Clients for the program are parents with newborns going home from the hospital, parents who have infants several months old, and parents who are from out of town visiting family and friends. Since PECABU opened a year ago, it has loaned over 1700 infant seats. The program has two offices, one at Providence Hospital and one at Humana Hospital Alaska. The deposit on the rental is $15 with a $10 refund when the seat is returned. PECABU uses the Century Products Infant Loveseat, Model #4500 and loans it out for a period of 9 months or until the infant weighs 20 pounds. Parents complete a rental contract, observe and participate in a demonstration of proper use of the

infant seat. General safety and infant comfort techniques are also stressed. This model infant seat is one of the simplest to use and is approved by The National Safety Administration. There are loaner programs similar to PECABU at Cook Inlet Native Association, Copper Center, and Dillingham. Loaner programs are also beginning in Fairbanks, Seward, Kodiak and Kenai.

The Alaska Child Passenger Safety Association has developed as a result of recent increased interest in automobile safety for children. Spearheaded by an Anchorage physician, Dr. Clint Lillibridge, a task force of interested individuals formed the Association with the intention of stimulating awareness and interest throughout the state concerning child passenger safety and to urge the use of restraint devices for children in automobiles. Members of the Association include State Troopers, Municipal Health Department Staff, hospital, military and Federal Safety Department representatives, Medical Auxiliary officers and interested, concerned parents. The organization has been responsible for setting up displays in shopping malls, demonstrating all types of child restraints, answering questions, passing out literature, and encouraging support for restraint device legislation.

Other community group efforts to create an awareness of child passenger safety include an Anchorage Educational Resource Center. Funded by a grant from the Municipality of Anchorage, the Resource Center acts as a referral center for all community groups interested in educational and promotional aspects of child passenger safety. The Center conducts surveys, makes presentations in schools and provides materials, speakers, and films concerning the importance of using child restraint devices.

At the present time 42 states have passed some form of legislation for compulsory use of child restraints in automobiles. A bill is before the Senate and House regarding such a law for Alaska. Both Fort Richardson and Elmendorf Air Force Base have restrictions for people on their property concerning seat belts and/or child restraint devices.

Researchers at the University of Kansas Medical School have proven that "buckled up equals better behavior". In several studies they observed children riding in cars with their parents. When not buckled up, the children squirmed around on the seats, stood up, complained, fought, and pulled at the steering wheel. When buckled into car safety seats, however, there were 95% fewer incidents of bad behavior. Children feel secure when buckled up. In sudden stops and swerves, they are held snugly and comfortably in place. Most car safety seats lift children high enough to see out the window. Children are also less likely to feel car sick and more likely to fall asleep. Think for a moment: how much attention do we pay to our driving when our child falls off the seat, hangs out the window, pulls our hair, or tries to open the door?. With our children buckled up we can concentrate on our driving without having to worry about their being hurt. We will also be calmer and more relaxed, as will our children, during the drive and when we arrive at our destination.

Here are a few tips to help make your child's ride in the car a safe and happy one and to keep you using your restraint device.

1) Read the directions for proper use of the car seat you have. Use it exactly as recommended, or your child will not be as safe as possible.

2) Put children in the back seat whenever possible. It is the safest place in your car.

3) Have everyone in the car buckled up. An unrestrained child or adult can be thrown into other passengers and cause serious or even fatal injuries.

4) Have a special toy that is used only in the car. It provides more interest and a special attitude concerning the ride.

5) Make a special point of having a treat together with your child for the times that the ride has been particularly good. We all like rewards.

6) Be consistent. Parents need to start with the first ride home from the hospital using a safety seat and use it every ride. Make your child's ride in the car a safe and happy one.

7) Use your child safety seat and your seat belts. Encourage your friends to do the same. With the number of hours children spend in the car these days and knowing that car accidents are the number one threat to a young child's life, it is a good reason to use your child's safety seat and give them the only crash protection they need for the rest of their life - immunize them against the automobile accident!

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50,000 people will be saved from colorectal cancer this year. You can save one.

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The presence of hidden blood usually indicates some problem in the stomach or bowel, not necessarily cancer. Positive tests must be followed by further testing to find out what the problem is.

Other tests for colorectal cancer you should talk to your doctor about: Digital rectal exam (after age 40); the procto test (after age 50). It is important to report any personal or family history of intestinal polyps or ulcerative colitis, and any change in your bowel habits, which could be a cancer warning signal.

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THE CARE AND FEEDING OF LEGISLATORS
OR
HOW ABOUT A PRESCRIPTION FOR SOME SLEEPING PILLS, DOC?

Most MDs might think it inappropriate for a political contribution to appear in a medical journal. But most MDs, I am afraid, do not realize that changes in the practice of medicine as we know it loom over our heads like a series of great combers as depicted on page 149 of LIFE for May 1984. By recounting a couple of adventures in the recently adjourned 13th Alaska State Legislature where I was a Representative from the Kenai Peninsula, in case you did not know, I hope to sound the tocsin, ring the alarm, utter an epistolary shout, make you all aware of the impending doom.

With assistance I was able to flatten two huge breakes that threatened to inundate us but, rolling in from the horizon, others are approaching and unless the MDs of this state and nation bestir themselves as suggested in this contribution we will awaken one day to a world where suddenly patients won't come first, a world in which we will do what hospitals and governments deem best and get paid what governments and hospitals think we are worth.

The hour was late and the workers were few and had it not been for a handful of politically astute MDs scattered about Alaska and our lobbyist we might this day (9 June 1984) have awakened to find ourselves joined in the practice of medicine by optometrists and naturopaths. As it was, the approximately 25 MDs and their friends whom I contacted by phone bombarded the Senate with public opinion messages (POM's), telegrams, phone calls, letters and face-to-face confrontation so that the infamous House Bill (HB) 225, that would have permitted optometrists to use diagnostic and therapeutic drugs in their examination of peoples' eyes, never got to the Senate floor, but sat buried in the Senate Health, Education and Social Services Committee.

It had passed in the House 27-11 in spite of my best efforts and those of our lobbyist. It had passed the House partly because of nepotism and because Alaska's MDs were so complacent that, with the exception of two other opthalmologists, very few of you even realized that HB 225 -- the optometry bill -- existed much less posed a threat to the health and well-being of all Alaskans. This bill would have gained for optometrists a license to practice medicine and surgery in Alaska.

Optometrists have their foot in the door of the practice of medicine in more than half our states. They accomplished this by intense lobbying, generous contributions of money to their state legislators' campaign funds and persistent implication in the media that they knew more about the diagnosis and treatment of eye aberrations than the average MD. And how they have succeeded!

The passage of HB 225 in the House in spite of my best efforts and the help of others was not only a blow to my pride, but also constituted an affront to those MDs living and dead in whose select company I take so much pride in being. Corny as it may seem, what little good I have been able to accomplish in over 74 years of living and 50 years of practice as an MD, was almost entirely due to the trust that over 58,000 people and those they love put in me because of that cherished degree. And I was determined to oppose by every legitimate means at my command the incursions of the under-educated into that select company.

During the sleepless nights that followed the passage of HB 225 by the House, I fretted and worried as I sought for some means of defeating this odious legislation. I reviewed many of the laws from other states that had made j.g. MDs out of optometrists. Finally, early one morning as the gray light of dawn crept into my room, the answer came in a blinding flash of revelation. A born-again Christian would have called it a sign from Heaven. Anyway, I was impelled to get up, clean up, and hustle through the snow to my office to once again read the Alaska Medical Practice Act. In spite of the protests of my arthritic joints, I traversed the distance between the Baranof Hotel, my home away from home, and the capitol in record time (for me) and soon had the appropriate statute on my still-complaining knees. And there the solution lay, as it lies in the statutes of all 50 states, waiting for the discovery of the answer to this vexing problem of how to deal with irregular practitioners who want to enter the practice of medicine by the back door. How many MDs have missed it; how many governors, how many (God help us) lawyers, how many dentists, how many juries read but did not understand their medical practice act!

The act clearly states that in order to practice medicine in Alaska (and presumably in the other 49 states, as well) one must graduate from an approved medical school, receive an MD degree, serve at least a year of internship or residency, and obtain a license to practice by examination or through reciprocity with any state or Canadian Province having medical practice acts similar to our own.

No need to tell horror stories of missed diagnoses, unsuitable spectacles, or corneal ulcers from badly fitted contact lenses perpetrated by optometrists, for the annals of medicine abound with tales where ophthalmologists have removed the wrong eye, missed the leucocoria of retinoblastoma or advised the worried parent of a cross-eyed infant that he or she would outgrow it. The average optometrist like the average citizen of whatever occupation is honest, God -- and IRS -- fearing, and competent but their national society persists in the delusion that they should be granted by legislation for their own enrichment and not for any demonstrated need on the part of the public what I have indicated is required before one can diagnose and treat disease of the eye and the adnexae.

Now, when I showed the four lawyers in the Senate and other Senators this interpretation of the medical practice act, the death knell was sounded and it never got out of committee. All to whom I spoke said, "Well, I'll be damned!" or words to that effect. I offer this solution to those sister states who wish to repeal the laws allowing unqualified people to practice medicine free, gratis, and for nothing. Noblesse oblige about sums it up.

Repealing the laws that allow irregular practitioners to practice medicine will be about as easy as taking a tiger cub away from its mother with ones bare hands and without the benefit of animal tranquilizers. But it can be done. All it takes is work on the part of MDs, time, money, political awareness and a good lawyer. The question is how many of us in this state and in this nation are willing to let renegade practitioners prey on the people in violation of the medical practice act put on the books by their own legislators. Let optometrists measure (opto--eye and metrist--one who measures) eyes, which they do very well in Alaska and in other states that have not permitted them to be substandard MDs. Without using medicines in the eye, they earn enough to live very well with incomes augmented by the proceeds from the little optical shops that are conveniently attached to their offices (a pernicious practice in which many ophthalmologists as well indulge, despite obvious conflict of interests).

While all this was going on, HB 347 was introduced by two of our House members who lend a sympathetic ear to any irregular practitioner with some system of scuttling the practice of medicine. I have never been able to find out why these two otherwise astute folks feel the way they do. Perhaps some MD spoke to them in that condescending and arrogant way that endears us to so many people. It's all right if people think you are a god. The danger lies in believing it yourself. If a naturopath convinces you that he or she can cure your cigarette cough with acidophilus milk, more power to them. Anyway, the bill that was finally introduced would, if passed, have permitted naturopaths to practice emergency medicine, operative obstetrics, otolaryngology, proctology, draw blood, inject local anesthetics and do a host of other things that even the most self-confident graduate of a 3-year family practice residency would be scared to ask for.

As this reprehensible bill began its journey through committees and to the floor of the House, I amended it so that all naturopaths would be allowed to do was herb doctoring and attending natural childbirths. Of course, the naturopaths seethed but accepted it as amended since, as they said, after all it did give them recognition and would allow control of all who would practice this cult. But guess what! I voted for it in amended form but in the Senate they got a member of that august body to put back all the material that I had amended out of it. So the joke was on me. To its credit, the Senate later on brought to its floor the bill as I had amended it in the House and I was hard pressed to explain why I now would appreciate the defeat of the bill in any form since there were only 3-4 naturopaths in Alaska, and since after saying they were satisfied with recognition they again tried to muscle in to the province of the MD. HB 347 finally got to the Senate floor and, worse yet, it passed 11-9. It was then brought up on reconsideration and failed 11-9. Truly a legislative cliffhanger and a lesson to naturopaths that when you give your word you'd better stick to it. Don't bite the hand that feeds. Don't change from soft to hardball in the middle of the game. If your word is not good, what have you really got? Of course, the same arguments used to defeat the optometry bill were used to get the naturopath bill amended in both Senate and House.

Now, my fellow MDs, please take heed. Arrogance, complacency and condescension will put the citizenry at the mercy of all sorts of irregular practitioners ever romping on the fringes of medicine, dentistry, and nursing. My advice to you is to pay attention to your legislators and to all legislation that deals with health, education and social services. The irregulars are forever probing, probing, and probing in an effort to usurp the privileges that our fellow citizens have trustingly bestowed upon us. Remain worthy of that trust. They want the status, the power, the respect and the money.

Pay attention to your legislators. Remember their birthdays, take him or her out to dinner once in awhile, have them over to meet the family, ask them to a staff, county or state medical meeting. Put your better foot forward. Spare them the minutes of the last meeting. Let them speak or ask questions first and be on their way.

Tell them they can get advice on matters pertaining to health, education and social services from you or your peers any time. Say thanks when they oppose something that is anathema to you or aid in the passage of legislation that is good for our

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fellow citizens. If an AMA officer is on the program, invite your legislators. Send a check once in awhile, especially during the arduous campaign days. Don't, for heavens sake, send a check one day and the next phone him or her asking for his help on impending legislation.

The president of the Alaska State Medical Association and the presidents of all component societies can get copies of all legislation having to do with HE & SS for nothing by just asking the local Legislative Information Office. Be informed, stay informed, and don't rely on your virtue, one old MD legislator and one young lobbyist to do it all for you. Your legislator has other things to think about than HE & SS such as schools, roads, water, sewers, museums, railroads, fishing, forestry -- the list is endless. It is impossible for one legislator, even with a staff of from 3-6, to read much less understand the myriad bills (over 1,000 in the 13th) that are introduced. Two were over 200 pages long. We were lucky this time. We might not be so lucky again. The ball is in your court and whether it goes into the net or out of bounds or lands straight and true is up to you.

Perhaps what I have written smacks of the very arrogance and complacency that I so decry. If so, in extenuation I plead that six years in the Legislature have shown me what its members and their constituents think of us. I have been able to alter the attitude of many legislators, but others remain intransigent foes of us and all we stand for. And each one has a vote. It can be cast in favor of bills or against them and one vote can make a tremendous difference.

What I have written about represents an exciting and useful way to use ones experience of life when the inroads of time make the continued practice of medicine and surgery inadvisable. On the negative side, five months away from home and a beloved wife are crosses that must be borne. And all legislators are not Abraham Lincolns either, believe me.

Optometrists and naturopaths, of course, are decent folk. They envy the lot of the MDs who as a group, in many polls taken by disinterested parties, lead all others in the esteem of their fellow citizens. But there are cracks in the facade. One is excessively high fees. Another is the DRGs (diagnostically related groups). A third is arrogance. A fourth is complacency. And, perhaps most irritating of all, are condescension and the inability or unwillingness to discuss medical and surgical diagnoses and fees in a simple and diaphanous way. The price of the high regard we are held in by most people is eternal vigilance laced with compassion and humility. Instant intimacy by the use of a woman's first name two minutes after you have met her or the even more loathsome practice of calling a patient honey or dear is often deeply resented by women of dignity, and the use of these words ring as hollowly as a politician's laugh. Call them Miss, Mrs. or Ms. or, if asked as often is the case with women or men, call them what they want to be called. Don't call the president of the local savings and loan Dorothy and expect her to call you doctor.

During the early months of struggling with HB 225, the American Academy of Ophthalmology got wind of the legislation. Did the president phone or write? Hell no, he had a young staffer phone me and write a few letters which were of no use, however well meant. The political arm of the American Academy of Ophthalmology is as weak as our own. Did the American Board of Ophthalmology or the American Medical Association have one of their MD officers phone or write? Again the answer is no. Yet it is not beneath the dignity of our Governor to call me on the phone or invite me to his office regarding legislation he thinks is important.

As for appreciation, forget it. Far too many of you take it as your natural right that virtue will triumph. Virtue may, but you'd better start giving her a hand.

The average citizen is made of sterner stuff. I introduced a bill that protected religious schools against unreasonable regulation by state Department of Education, and another that will control smoking in public places. When these two pieces of legislation, or their successors, became law (after the hard work of many other legislators beside myself), I received many letters, phone calls and face-to-face expressions of thanks and future support. How sweet it was.

"Now, Doc, I'm not sleeping so good nights. Senate Bill 15 comes on the floor tomorrow. How about a prescription for some sleeping pills?"

Milo Fritz, M.D.
Representative, District 5, Alaska

SHIPS' SURGEONS AND NATURALISTS IN THE EARLY HISTORY OF ALASKA
PART 2: VOYAGES OF TRADE AND SCIENCE, 1786-1807

Meares, Portlock and Dixon (1786-87)

These three English captains are considered together because they explored the Pacific Coast of Alaska in the same years and in other ways as well their lives were linked.

John Meares in the small trading vessel *Nootka* sailed eastward along the Aleutian Chain in August 1786. After a stop at Unalaska he pushed on to Cook Inlet and Prince William Sound to investigate trade possibilities. The lateness of the season prevented his return to China that year. He elected to winter in Prince William Sound, near the present village of Tatitlek. At first the ship's company remained in good health, the sailors happily skating on the shore ice for exercise during November and December. Heavy snowfalls in the next two months prevented them from hunting for food or even trading with the Natives. Scurvy made its appearance in January and by the end of the month, four had died and 23 were confined to bed, including the surgeon who was "extremely ill". Four more died in February and by the end of that month 30 were too ill to get out of their hammocks. The following month Meares had the "melancholy office of performing the last imperfect obsequies to the remains of the surgeon", a situation that only increased the desperation of the crew since now they lacked medical care as well. Deaths continued to occur, despite the partial relief from scurvy afforded to some by persistently chewing on young pine branches. Food was always in plentiful supply, but ship's stores were the cause not the treatment of their disease. Towards the end of April when only a few of the ship's company remained well enough to go on deck, a supply of fresh fish, brought by the Natives, gave hope of recovery to the crew.

In early May 1787, a whaleboat from the *Queen Charlotte*, commanded by Captain George Dixon, arrived at the *Nootka*. Dixon and his commander Nathaniel Portlock were in Prince William Sound on a trading expedition and heard of Meares's plight from the Natives. The two captains did everything possible to assist Meares to get his ship ready for sea, even lending him a few seamen to round out his crew. Meares finally left his icy prison in June of that year to sell his furs in China. Captains Portlock and Dixon had already sailed to the Northwest Coast the previous year in the ships *King George* and *Queen Charlotte* respectively, while representing a commercial venture called the King George (Nootka) Sound Company. The ships had reached Cook Inlet in July, passed the Russian post at Kenai and traded with the Natives at the head of the bay. They then had explored Prince William Sound before returning to Hawaii for the winter. The following spring they steered again for Prince William Sound where the local Chugaches directed them to the harbor where Meares had spent a disastrous winter. Portlock later moved the *King George* to Nuchek Harbor and there awaited his long boat, which he had sent earlier to Cook Inlet, after which he explored to the eastward and eventually returned to the Hawaiian Islands.

The surgeon of *King George* was Mr. James Hoggan, who has left no personal record of his activities. Since Portlock's own account is unusually valuable in its medical descriptions of the local Natives, one wonders whether Hoggan might have had some hand in writing or at least advising on the sections.

After separating from Portlock, Dixon sailed eastward in the *Queen Charlotte* and entered Yakutat Bay, where he located on its south side a fine harbor he called Port Mulgrave. Later he passed eastward and southward along the coast to Mt. Edgecumbe and Norfolk Sound, and thence to the Queen Charlotte Islands.

Dixon's surgeon was Mr. William Lauder, who like Hoggan, left no published account of the voyage, but it is possible he assisted the compiler of Dixon's account in some parts. Lauder unfortunately was taken ill in February 1788, shortly after the *Queen Charlotte* had left Wampoa, China. His shipmates had hopes for his recovery because of his youth and temperate habits, but he died a short time later.

The surgeon's name may still be found on the map of Alaska. Point Lauder is located at the south point of the entrance to Whale Bay on the southwest coast of Baranof Island. The name was bestowed by Dixon about June 23, 1787, shortly before his ship left Alaskan waters.

Marchand's Expedition (1791)

While l'ancien regime was toppling at home in Paris, Etienne Marchand was making a round the world voyage, in the course of which his vessel, the *Solide*, visited Sitka Bay in southeastern Alaska. The account of the voyage was written by one C. P. Claret Fleurieu, who drew heavily on direct quotations from the diaries of both Captain Chanal

and the surgeon, Roblet. This account is an unusual one on Alaskan annals in that it was not written by the Commander (who in fact is rarely mentioned). The style is florid and literary, with careful attention to evaluating the work of earlier explorers, and spiced with an occasional quote from Voltaire or some such figure.

Surgeon Roblet, who must have kept an extensive journal, was a careful obsever with an eye for detail. In writing of the types of plants used uncritically by La Perouse as antiscorbutics, Roblet expressed doubts that the plants were of the same type familiar in France. He therefore stopped short of recommending them for the crew, adding,

> If our people had been attacked by the scurvy, and the use of vegetables been commanded by urgent necessity, I should have thought I might trust something to chance; but the good health which they enjoyed made it my duty to be more cautious.

Fleurieu, for his part, noted that both Captains Dixon and Chanal had eaten the plants with "no inconvenience". Though hesitant to oppose Roblet, whom he admired, he apparently used the examples of these captains to encourage the crew to eat the plants themselves to prevent scurvy,

> to guard seamen against the impressions which might be made on them, and justly too, by the doubts and authority of an enlightened observer, of an officier of health who unites experience to the theory of his art;..

Roblet seems to have had few medical duties to perform while the ships were on the Northwest Coast, but he kept his mind well occupied by observing and commenting on many aspects of the life and customs of the Indians. Fleurieu drew on these observations for his general description of the Sitkans, their mode of dress, their lack of cleanliness, and their use of labrets and other ornaments. Further, it is likely that Fleurieu's discussion of smallpox on the Coast also comes from Roblet.

The surgeon's interests also extended to many other aspects of Native life, including sex and moral instruction. He even compiled a vocabulary of Tlingit words with their translations. His natural history interests and observations encompassed botany, the sea otter and even the various species of seaweed.

The Billings Expedition (1791-92)

By an imperial decree in 1785, the Empress Catherine appointed an Englishman, Captain Joseph Billings, to command a major scientific expedition to the Russian discoveries in the New World. Billings, whose major merit was that he had sailed with Cook, set off overland from St. Petersburg, accompanied by Martin Sauer (his English secretary), Surgeons Michael Robeck and Peter Allegretti, two surgeons' mates, and a number of other officers. Two physician-naturalists, German Carl Heinrich Merck, and an Englishman John Main, were added at the last moment as the expedition passed through Irkutsk.

In May 1790, Billings finally set sail from Petropavlovsk, in Kamchatka, having spent several years exploring eastern Siberia. His ship, the *Slava Rossie* ("Glory of Russia"), sailed to the Aleutians, Kodiak, and Prince William Sound, after which, late in the season, it returned to Kamchatka with most of the crew already suffering from scurvy.

After wintering at Petropavlovsk, the expedition, this time with a second vessel under Captain Hall, set sail again for the Aleutians. After a brief stop at Unalaska, Billings returned to the East Cape of Siberia, leaving Surgeon Allegretti and others at Unalaska. In late July Billings was at Cape Rodney where he went ashore with Dr. Merck, who has left a narrative of their encounter with the Eskimos.

Upon reaching St. Lawrence Bay, near East Cape Billings sent his ship back to Unalaska under the command of Lt. Sarychev to look for Hall's missing ship. Later, united again, the two ships wintered in Unalaska, the party including Surgeon-Major Robeck and Surgeon Allegretti. During the winter and spring they were kept busy caring for many of the crew who had developed scurvy. Also that winter the beleaguered crews were visited by a party of Russians from Shelikhov's recent settlement at Three Saints'Bay on Kodiak Island. These had come seeking tobacco, rum, and remedies for syphilis, the latter being provided by the surgeons together with directions for their use. The ships finally sailed from Unalaska in the late spring of 1792 to join Billings in Siberia.

Dr. Merck has left a valuable record of his observations on the expedition. His book contains not only a wealth of material on the ethnology, botany and natural history of the areas visited, but also describes in some detail various aspects of traditional medicine among the Aleuts, Koniags, and Chugaches. Merck was the first in Alaska to view the effects of Native customs and practices on health and disease. He was also the first to make more than casual observations on the diseases from which the Native people suffered.

Vancouver Charts the Coast (1793-1794)

Captain George Vancouver left England in April 1791, Commanding the sloop *Discovery* and accompanied by a smaller vessel the *Chatham,* with the primary objective of supplementing Cook's explorations in Alaska below latitude 60°. He spent the summer of 1793 in southeastern Alaska charting the islands, bays and inlets of the Alexander Archipelageo. After wintering in the Hawaiian Islands, the vessels returned to the Northwest Coast surveying Cook Inlet, Prince William Sound, and the northern parts of the Inside Passage. Vancouver

left Alaska in late August 1794 and reached England the following year.

The *Discovery* carried a complement of a surgeon and two surgeon's mates on the voyage, while the *Chatham* had a surgeon and one mate. The only one of these whose name has survived was Alexander P. Cranstoun, who shipped as a surgeon of the *Discovery*. Also aboard the vessel was a Scottish naval surgeon Archibald Menzies, who had already visited the northwest coast of America in a fur-trading vessel some years previously. Menzies, who was to play no small role in the fortunes of the voyage, was born in 1754 and had received his training in medicine and botany at Edinburgh before joining the Royal Navy. He had come under the influence of the wealthy botanist Sir Joseph Banks, who had sailed on Cook's first expedition to the Pacific. Banks had exerted pressure on the Navy to have Menzies appointed, if not as surgeon then as botanist. He gave the young man instructions on the collection of specimens and arranged for a kind of greenhouse to be erected on the quarter deck.

Mr. Cranstoun became ill with dysentery near the Cape of Good Hope and never recovered his health. At Nootka Sound in 1792 he asked to be relieved and Vancouver appointed Menzies as Surgeon, probably reluctantly, though his offical journal does not reflect this. The Captain and the botanist were already at odds with each other, yet Vancouver felt he had no choice but to select the most qualified person. His true feelings are demonstrated, however, by his insistence that if Menzies refused to accept the job, he must state his reasons in writing. Menzies accepted, but grumbled that he was already doing most of the medical work, including care of the Captain, who was constantly sick.

The two quarreled several times during the voyage, usually about Menzies' greenhouse and his beloved botanical specimens. The last of these quarrels, on the homeward voyage, was serious enough that Vancouver arrested him for insolence and threatened to have him court-martialed upon their return to England. Later Menzies was told to turn over his private journals to the Captain but refused until so ordered by the Admiralty. When the ships did reach home, Menzies saw that the Captain was in earnest about the court-martial and submitted a written apology. Fortunately Vancouver accepted it and the issue was dropped. Menzies later practiced in London and became President of the Linnaean Society.

During the voyage Menzies had several opportunities to demonstrate his medical skill. Besides the illnesses of Vancouver and others, some men of the *Chatham* were afflicted with paralytic shellfish poisoning in a small cove south of the Alaskan border. One of the victims died. On the homeward voyage in 1794, scurvy broke out among the crew but was quickly brought under control.

Menzies is one of those select few whose names are remembered on the map. Vancouver named a point of land for Menzies in the waters of British Columbia, about a month before appointing him surgeon. In Alaska, what is now Chatham Strait was often called Menzies Strait by the early fur traders. Likewise Cape Ommaney was formerly known as Menzies Cape among the traders.

Krusenstern's Round the World Voyage (1803-1807)

In 1803, Capt. Lt. Ivan Krusenstern left the Russian naval base at Kronstadt in the ship *Nadezhda*, in what was to be the first of many round the world voyages by Russian navigators over the next forty years. These voyages had many purposes -- exploring and national prestige among them, but they also served to supply the far off Russian colonies in America.

The *Nadezhda*, in fact, was one of the few of these tall ships that did not visit Alaska, though it spent time in Kamchatka and the Bering Sea. Its interest to this work was the two physicians on board, Dr. Karl Espenberg, an old friend of Krusenstern's and the expedition's physician; and Dr. Georg H. von Langsdorff, a German who sailed as one of several naturalists. Also aboard was a young naval cadet Otto von Kotzebue, who was later to make a name for himself in Alaskan exploration.

Dr. Langsdorff will be considered further later in this paper. Dr. Espenberg, though he never even saw Alaska, enjoys a kind of immortality in that a Cape almost directly astride the Arctic Circle was named in his honor at the southern approach to Kotzebue, in command of his own vessel the *Rurik* in 1816, who paid this honor to his friend and old shipmate. In later years the Espenberg River and a village of Espenberg took their names from the Cape.

Two Voyages of the Neva (1803-1807)

The *Neva* was a sister ship to the *Nadezhda* and sailed in 1803 under Urey Lisianskii as part of Krusenstern's round the world expedition. The ships remained together until they reached Hawaii in the spring of 1804. Lisianskii then headed north for Kodiak, which he reached in mid-July. After brief essential repairs, he sailed for Sitka to help suppress a revolt of the Tlingit near the settlement. With the help of the *Neva's* cannon, an Indian fortress at the present-day site of Sitka was overcome and destroyed in early October. Lisianskii then returned to Kodiak to pass the winter, during which he made many valuable observations on the life of the Koniags. In June 1805, the *Neva* sailed back to Sitka, where Lisianskii again assisted Baronov in concluding a peace treaty with the Tlingit before

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departing for Canton in September.

The *Neva* carried a Dr. Moretz Laband as surgeon together with Alexei Mootofkin as surgeon's mate. Laband, who was the only foreigner on the ship, had been selected personally by Capt. Krusenstern, having been recommended "as a man of great knowledge, and of a most amiable character; qualities of which he gave sufficient proof during the voyage".

Lisianskii makes no mention of the surgeon in his official account, yet he frequently discussed medical affairs himself, including some valuable commentary on traditional medicine in Kodiak and Sitka. Of Mootofkin we hear only that he was injured in the attack of the Tlingit stronghold. Dr. Laband must have been kept unusually busy caring for the many wounded during the hostilities.

The *Neva* sailed to the Russian colonies a second time under the command of Lt. L.V. Hagemeister in 1806. The surgeon on this voyage was Dr. Karl Mordgorst, whom Hagemeister apparently left on temporary duty at Kodiak while he went on to Sitka. In any event, he was there in November 1806, when the American sea-captain, Archibald Campbell arrived suffering from frost-bite and gangrene after being shipwrecked in the Aleutians. The doctor had set up a small medical facility, probably basic medical care after his departure. Evidence for this is seen in the title of the hospital: "Chief District College of Counselor and Chevalier Baranof". When Campbell arrived at the makeshift hospital in a state of delirium, the surgeon, he later recollected:

> on examining my feet, found them in a state of mortification; he used poultices of rye, and other applications, for several days, in hopes of effecting a cure. On the second day he cut off one of my fingers; I lost a joint of another ...

Mordgorst ultimately amputated both feet below the ankle, but chronic ulceration resulted and the skin refused to heal.

Mordgorst (whom Campbell calls "Nordgoorst), eventually wrote up Campbell's case report, describing in detail the method of treatment, which involved dressing the gangrenous parts with turpentine and the unaffected parts with olive oil, followed by charcoal and other applications. The course of treatment lasted several months, at least from January through April 1808. Finally, the surgeon reported that he could not complete the cure, "being obliged to return to Russia", but he left directions with the Assistant Surgeon (an apprentice?) on how to proceed in the treatment.

We hear of Dr. Mordgorst on one other occasion, when in 1808 the Board of Directors sent smallpox vaccine to the colonies with orders that he demonstrate the technique of vaccination and teach several capable company employees how to administer it.

The Travels of Dr. Langsdorff (1805-1806)

Georg H. von Langsdorff was a German physician who, as we have seen, sailed with Krusenstern in the capacity of naturalist. He had received his M.D. at Gottingen, then served in Portugal for several years before joining the English auxiliary troops there as Surgeon-Major. After several campaigns he travelled further in Europe and returned to Germany in 1803, where he heard of the proposed Russian circumnavigation. Hurrying to meet the ships in Denmark as they left the Baltic, he was taken on as supernumerary naturalist through the efforts of influential friends.

After two years with Krusenstern, he left the *Nadezhda* in Kamchatka in 1805, to become the personal physician of Rezanow, the Russian plenipotentiary who was on the way to inspect the colonies. Sailing on the brig *Maria* on June 24, they passed via the Pribilofs to Unalaska, where some of the crew who had already developed scurvy had to be replaced. In late July the vessel sailed north along the Chain to Kodiak and thence to New Archangel, where it anchored in late August.

The situation in the capitol was serious indeed. The nearby Indians were restless and quarrelsome, news arrived of the destruction of the post at Yakutat, and through a succession of misfortunes, provisions were very low. Langsdorff described the desperate condition of the workers at Sitka, who were racked with disease, living in filth and close to starvation. Finally the *Juno,* a Boston trading vessel, was purchased for its provisions, but soon these provisions were also depleted. In the spring of 1806, the *Juno* sailed to San Francisco with Rezanov and Langsdorff aboard, in order to buy provisions. The mission was successful and the party returned in June, only to find that 10 persons at the fort had perished from scurvy. Shortly after, Rezanov and Langsdorff set off for home via Kodiak, the Aleutians and Okhotsk, from whence they traveled overland to the capitol to make their report.

Langsdorff is a somewhat controversial figure. Though in his writings he gives many original and valuable observations on Russian American people, his style is pompous, pedantic, and probably inclined to exaggeration. He provides relatively few medical observations except for a description of the sad condition of the Company workers. One gets the impression he was disgusted by filth, blood, pus and disease, preferring rather his prestigious role as scientist and physician to the imperial ambassador.

Robert Fortuine, M.D.

(To be concluded)

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FIRST ANNUAL 6K FUN RUN

Results of the First Annual 6K Fun Run sponsored by the Alaska Chapter of the AAFP/ASMA Auxiliary held on Sunday, June 10, 1984, Valdez, Alaska.

Time	Name	City	Finish
26:44	Mike Miller	Valdez	1
28:31	Stan Jones	Haines	2
28:40	Ron Tinsley	Fairbanks	3
28:42	David Koivunen	Wasilla	4
28:59	Ron Christensen	Fairbanks	5
29:41	Rick Reader		6
30:08	Vivian Peterson		7
30:20	Aaltje Smith	Anchorage	8
31:43	Jerry Little	Anchorage	9
32:37	Randy Egzan		10
35:53	Ronnie Christensen	Fairbanks	11
35:55	Jason McGuire	Anchorage	12
36:03	George Hale	Anchorage	13
36:37	Leo Hauser	Anchorage	14
39:21	Jon Koivunen	Wasilla	15
39:22	Valerie Koivunen	Wasilla	16
39:23	Jim Patterson	Anchorage	17
41:39	Terry Patterson	Anchorage	18
41:53	Scott Christensen	Fairbanks	19
41:58	Charles Trush	Anchorage	20
43:11	Pat Jones	Haines	21
45:02	Jerri Gerston	Montana	22
48:05	Susie Erkman	Anchorage	23
48:30	Saira Erkman	Anchorage	24
49:01	Park Erkman	Anchorage	25
49:10	Bill Gerston	Montana	26
53:14	Sally Brownsberger	Anchorage	27

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1984 ASMA RESOLUTIONS

ADOPTED BY THE ALASKA STATE MEDICAL ASSOCIATION HOUSE OF DELEGATES AT ITS ANNUAL MEETING IN VALDEZ, ALASKA JUNE, 1984

RESOLUTION NO. 84 - 2
SUBJECT: SCHOOL HEALTH EDUCATION
WHEREAS, many of the leading health problems in Alaska, including accidental injuries, substance abuse, dental disease, and lack of proper nutrition, are greatly affected by an individual's lifestyle and personal health habits; and

WHEREAS, an effective approach to promoting positive health habits is through the schools where children can learn the necessary skills to adopt and maintain healthy practices and lifestyles that affect the rest of their lives, and

WHEREAS, an expansive list of national organizations supports school health education, and

WHEREAS, Alaska State, A. S. 14.30.360 (a) states "Each district in the state public school system shall be encouraged to initiate and conduct a program in health education for kindergarten through 12", and

WHEREAS, the Alaska Area Native Health Service and Native Health Corporations with Health Education Programs have long range goals of implementation of school health education, and

WHEREAS, the "Governor's Task Force on Effective Schooling 1981" recommends "health" as required curriculum in grades K-12, and

WHEREAS, a "Criteria for Excellence: Health Education Programs in Alaska" has been developed by the Department of Education, and

WHEREAS, the State Health Plan for Alaska has adopted a goal stating, "Comprehensive Health Education should be provided to all students in grades K-12 in Alaska's Public Schools"; therefore

BE IT RESOLVED, that the Alaska State Medical Association supports implementation of a required comprehensive, sequential program of health education, kindergarten through twelfth grade, for all students in Alaska's public and private schools.

RESOLUTION NO. 84-3
SUBJECT: HAZARDOUS MATERIALS INDEMNITY
WHEREAS, widespread contamination with polychlorinated biphenyls (PCBs) occurred between 1971-1983 at an abandoned U.S. Air Force White Alice Site at Aniak[1,3]; and

WHEREAS, costs for health hazard assessment, enviromental monitoring and environmental clean-up have been excessive, estimated at greater than $1.0 million, and are continuing; and

WHEREAS, 68 White Alice sites exist in Alaska, many of which can be expected to have toxic or hazardous materials on site, similar to those found at the Aniak site[4]; and

WHEREAS, these White Alice sites may be turned over to State or local ownership in the future, as was the Aniak White Alice site; therefore

BE IT RESOLVED, that the Alaska State Medical Association urges that the State of Alaska develop a comprehensive strategy to ensure that White Alice sites or other federal lands or facilities which may be conveyed to State or local ownership in the future do not contain toxic or hazardous materials; and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association urges representatives of the Legislative, Governor's Office, Department of Enviromental Conservation, Department of Health and Social Services, Department of Community and Regional Affairs, and the State's Congressional Delegation meet to ensure that adequate procedures are developed in the event that investigation, sampling, monitoring, and disposal programs at federal sites conveyed to State ownership become necessary in the future.

1. Polychlorinated biphenyls (PCB's) in Aniak - health risk assessment, Epidemiology Bulletin No. 5, March 9, 1984, Epidemiology Office, Division of Public Health and Social Services, State of Alaska.
2. Cony A. Search on for toxic chemical in Aniak, Anchorage Daily News, July 17, 1983.
3. Cony A. 330 gallons of toxic chemical found in Aniak, Anchorage Daily News, July 28, 1983.
4. Hazardous waste in Alaska, You've got to be kidding, Department of Environmental Conservation, State of Alaska, 1982.

RESOLUTION NO. 84 - 4
SUBJECT: ESTABLISH COMPREHENSIVE HAZARDOUS MATERIAL CONTROL PROGRAM IN ALASKA
WHEREAS, incidents increasingly have been recognized in Alaska where workers or community residents have been exposed to potentially toxic chemicals and hazardous materials, such as

Exposure of Alaska Railroad employees to herbicides[1];

Exposure of workers to pentachlorophenols (PCPs) during construction activities in Barrow and Ketchikan[23];

Exposure of workers and community residents to polychlorinated biphenyls (PCBs) in Kake and Aniak[45];

Exposure of printers to ink contaminated with polychlorinated bihenyls (PCBs) in Anchorage and Fairbanks[6];

Exposure of hospital employees to ethylene oxide in Palmer[7]; and

WHEREAS, furture exposures will continue to occur and will require capabilities to investigate, perform health hazard assessments, laboratory examinations, environmental monitoring, and implementation of control measures; and

WHEREAS, prevention is more cost-effective and will reduce needless human suffering and environmental contamination; therefore

BE IT RESOLVED, that the Alaska State Medical Association urges the State of Alaska to move decisively to enact comprehensive hazardous material control program, and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association recommends adoption of material control regulations based on a "degree of hazard" approach as proposed by the Department of Environmental Conservation; and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association urges business; labor; environmental groups; health professionals; represenatives of fishing, mining, oil and gas industries; native organizations; and others to act together in support of development of such a program.

1. Alaska Survival, Linda Stefanowski, Bob Husted, Judy Price, Paul Bratton, and Tom Mercer vs. Francis Weeks, Chief Engineer of the Alaska Railroad; Frank Jones, General Manager of the Alaska Railroad; Robert Blanchette, Administrator of the Federal Railroad Administration; and Drew Lewis, Secretary of Transportation, United States District Court, District of Alaska, July 7, 1982.
2. Barrow Health Board Resolution No. 82-01, regarding the use of pentachlorophenol (PCP) in the utilidor project, March 1982.
3. Memorandum. Investigation of misuse of pentachlorophenol on Totem Heritage Center in Ketchikan, Department of Environmental Conservation, State of Alaska, September 16, 1982.
4. Health and the environment - PCB exposures make the news. Communicable Disease Bulletin No. 14, July 31, 1981. Division of Public Health, Department of Health and Social Services, State in Alaska.
5. Polychlorinated biphenyls (PCB's) in Aniak - health risk assessment, Epidemiology Bulletin No. 5, March 9, 1984. Division of Public Health, Department of Health and Social Services, State of Alaska.
6. Anchorage Daily News, March 23, 1984.
7. Hospital evacuation - ethylene oxide suspected. Epidemiology Bulletin No. 6, March 16, 1984 Division of Public Health, Department of Health and Social Services, State of Alaska.

RESOLUTION NO. 84 - 5

SUBJECT: PROMOTION OF UNIVERSAL ACCESS TO FLUORIDATION IN ALASKA

WHEREAS, dental caries is one of the most prevalent public health problems of Alaskans[1], and

WHEREAS, health care expenditures for restoration of caries are very large, and

WHEREAS, fluoridation of public water supplies will reduce the incidence of caries by 50% on a reliable, safe and well-documented basis[12]; therefore

BE IT RESOLVED, that the Alaska State Medical Association calls for a statewide effort by appropriate State and Federal agencies to encourage all Alaskan communities with public water systems implement central water fluoridation; and, for communities without public water systems, to assure community access to fluoridation techniques such as school-based fluoridation programs and fluoride drops; and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association encourages the State of Alaska Department of Health and Social Services and Environmental Conservation to budget for and implement this plan.

1. State Health Plan for Alaska 5, Statewide Health Coordinating Council and Division of Planning, Policy, and Program Evaluation, DHSS, January, 1984.
2. A Two-Part Report on Fluoridation, Consumer Reports, July-August 1978 Consumers Union of United States, Inc., Mount Vernon, NY.

RESOLUTION NO. 84-7

SUBJECT: SUPPORT FOR DATA COLLECTION PROGRAMS

WHEREAS, State and federal data systems provide information essential for identifying problems, for establishing priorities for them, and for measuring whether the solutions adapted are doing any good[1]; and

WHEREAS, census data (population data) and vital statistics data (birth, deaths, illnesses, and so on) are critically important so that we can compare one region or town or group of residents with another

region or town or group of residents with another to plan and evaluate health programs; and

WHEREAS, federal data sources are receiving less federal support so that information available to the public is shrinking[2]; and

WHEREAS, there exists a critical need in Alaska to support and develop strong and viable data systems to provide population data and vital statistics data essential for state planning; therefore

BE IT RESOLVED, that the Alaska State Medical Association urges the State of Alaska to increase financial and human resources in programs of demography and vital statistics; and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association urges the Alaska Congressional Delegation to work to increase federal budgets for federal data systems, especially the National Center for Health Services Research.

1. Addiss, Susan S. Data deterioration and public health policy, J. Public Health Pol. 1983:4;389-93.
2. Congress begins work on FY 1985 budget, The Nation's Health, American Public Health Association, March, 1984.

RESOLUTION NO. 84-9
SUBJECT: CARBON MONOXIDE, AIR QUALITY, AND AUTOMOBILE INSPECTIONS IN ANCHORAGE

WHEREAS, the Municipality of Anchorage has severe air quality problems, particularly with carbon monoxide, so that only one American city exceeded federal EPA carbon monoxide standards more frequently than Anchorage in 1982 and 1983[12]; and

WHEREAS, the Alaska State Medical Association supports efforts to improve air quality by reducing carbon monoxide levels, and

WHEREAS, the major source of carbon monoxide is exhaust from internal combustion engines in motor vehicles[34]; and

WHEREAS, the most cost-effective solution to improving air quality in Anchorage may **not** be a mandatory motor vehicle inspection program; therefore

BE IT RESOLVED, that the Alaska State Medical Association urges that the Mayor and the Municipality of Anchorage Assembly insist on an ongoing monitoring program specifically designed to evaluate the soon to be implemented program of mandatory motor vehicle inspections; and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association urges the Mayor and the Municipal Assembly to explore additional measures to improve air quality such as construction of limited access roads; improved stop-light synchronization; and increased availability of mass transportation; and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association urges the Mayor and the Municipal Anchorage Assembly to require evidence that the mandatory vehicle inspection program is effective in reducing carbon monoxide levels as a condition for continuing the mandatory program.

1. Memorandum, U.S. cities with highest episodic concentrations of carbon monoxide in ambient air, 1982, Enviromental Protection Agency.
2. Memorandum, Anchorage carbon monoxide test stations. Number of EPA standards for air by winters. 1984.
3. Shephard, Roy J., Carbon monoxide the silent killer, Charles C. Thomas, pub., 1983 Springfield, Illinois.
4. U.S. EPA, Air quality critria for carbon monoxide. External Review Draft, April 1979. Environmental Criteria and Assessment Office, Office of Research and Development, U.S. EPA, Research Triangle Park, N.C.

RESOLUTION NO. 84-10
SUBJECT: ASBESTOS ABATEMENT IN ALASKA SCHOOLS

WHEREAS, friable asbestos, similar to that which was discovered in schools in the Anchorage School District, exists in numerous other schools in school districts throughout the State; and

WHEREAS, an Asbestos Technical Panel, convened in Anchorage by the Anchorage School Board, reviewed thoroughly health hazards associated with asbestos in Anchorage schools; and, as a result, recommended that friable asbestos be removed from Anchorage schools as an unacceptable health hazard[1]; and

WHEREAS, many Alaskan school children in school districts other than Anchorage may be exposed to health hazards from asbestos that are preventable; therefore

BE IT RESOLVED, that the Alaska State Medical Association urge passage of Senate Bills 373 and 374; and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association urge the Governor to form a special task force with representatives of Department of Health and Social Services, Department of Labor, Department of Education, Department of Transportation and Public Facilities, Department of Environmental Conservation, parents of school children, and teachers to implement an asbestos abatement program in all Alaskan schools in accordance with recognized standards for asbestos abatement[2]; and

BE IT FURTHER RESOLVED, that the Alaska State Medical Association urge implementation of an asbestos abatement program which will include the following tasks:

1. Implement and insure completion of a comprehensive survey to identify and categorize asbestos in all Alaskan schools.
2. Evaluate health hazards associated with any asbestos (friable asbestos and asbestos in other forms) discovered in the survey and make recommendations for appropriate medical surveillance of students, teachers and workers exposed to asbestos.
3. Insure notification of teachers, parents, and students of the presence of friable asbestos identified in Alaskan schools in accordance with guidelines established by the EPA.
4. Recommend a plan for removal of friable asbestos, where necessary, and develop appropriate bid specifications and guidelines so that school districts can be assured that asbestos will be removed according to established standards which protect workers, students, parents and teachers during the removal process as well as insure that asbestos is removed totally and is adequately disposed of in approved sites.
5. Increase awareness of the health hazards associated with asbestos and protect against future problems by making sure that asbestos containing materials are not used in new construction.

1. Asbestos Technical Advisory Panel Recommendations, ASD Memorandum #534(82-83), Anchorage School District, Anchorage, Alaska, May 23, 1983.
2. Asbestos-Containing Materials in School Buildings: A Guidance Document, Part 1 and 2. U.S. EPA, Office of Toxic Substances, Washington, D.C., March 1979.

RESOLUTION NO. 84-11
SUBJECT: COMMUNITY HEALTH AIDE TRAINING
WHEREAS, the Alaska Community Health Aide is the backbone of health care delivery in rural and bush Alaska[13], and

WHEREAS, the Community Health Aides provide services to approximately 40,000 Alaska residents, Native and non-Native alike[13],

BE IT RESOLVED, that the Alaska State Medical Association is in favor of Community Health Aide Training throughout the State of Alaska.

1. O'Hara - Devereaus M. Reeves W.,Curtis E. The Alaskan health aide: a successful model of family and community health. Family Community Health. 1980;3:7184.
2. Alaska House Finance Committee Health Care Project. Alaska Native health care in 1982. January, 1982.
3. Martin S. Demography of community health aide/practitioner villages. Department of Health and Social Services, State of Alaska, 1983

RESOLUTION NO. 84-13
SUBJECT: VOLUNTARY FREEZE ON PHYSICIANS FEES
WHEREAS, The American Medical Association (AMA) and other medical groups have advocated the voluntary freeze on physicians fees for a one year period in view of escalating medical costs; and

WHEREAS, The Council of the ASMA has requested a one year price freeze for physician fees in Alaska; therefore be it

RESOLVED, That the Alaska State Medical Association endorses a voluntary one year price freeze on physician fees and encourage other health care suppliers to follow suit with a similar price freeze.

RESOLUTION NO. 84-14
SUBJECT: DRG LAW - HCFA REGULATIONS
WHEREAS, HCFA rules implementing the DRG law require physicians to attest to the validity of the primary and secondary diagnosis and the procedures performed and to sign a certification form, and

WHEREAS, These regulations require that the following statement must immediately precede the physician's signature:

> "I certify that the identification of the principal and secondary diagnosis and the procedures performed is accurate and complete to the best of my knowledge. (Notice: Intentional misrepresentation, concealment, or falsification of this information may, in the case of a Medicare beneficiary, be punishable by imprisonment, fine or civil penalty.)" and

WHEREAS, The requirement of this statement was not mandated by the DRG law but was instituted by HCFA'S final rule implementing the law, and

WHEREAS, This attestation and certification form is for the purpose of determining what payment will be made to the hospital, and

WHEREAS, Physicians are not involved with hospital charges, billings and money collections from patients or third party payors, and

WHEREAS, such business is solely the province of the hospital administration; now therefore be it

RESOLVED, that the American Medical Association opposes this rule and calls for its immediate removal.

RESOLUTION NO. 84-17
SUBJECT: USE OF AMA SCIENTIFIC REPORTS IN PROFESSIONAL LIABILITY SUITS
WHEREAS, The AMA Council on Scientific Affairs is charged with "the preparation of policy positions on scientific issues raised by the public, media", and

WHEREAS, A recent council report on "Early Detection of Breast Cancer" (I-83) recommends annual mammography for all women aged 50 and over without allowing either physicians or patients sufficient discretion as to the appropriateness of mammography on an individual basis

WHEREAS, The council report also states that "if every woman aged over 40 underwent annual mammography 7,500 cancer deaths could be prevented each year", and implies that physicians can prevent these deaths through education and more widespread use of mammography, and

WHEREAS, Such statements, despite disclaimers, may be construed as setting a standard of medical care especially after adoption by the AMA House of Delegates and publication in the Journal of the AMA and may therefore be used against physicians by plaintiffs attorneys in professional liability suits involving deaths from breast cancer; therefore be it

RESOLVED, That the AMA House of Delegates direct the council on Scientific Affairs to reconsider its report on "Early Detection of Breast Cancer" and reconsider its statements concerning the physicians role in preventing future breast cancer mortality and morbidity; and be it further

RESOLVED, That in preparing its future reports the AMA Council on Scientific Affairs avoid making statements pertaining to an arbitrary schedule or time frame for the physicians diagnosis of an illness and should avoid making statements pertaining to the physicians possible failure to diagnose an illness.

RESOLUTION NO. 84-18
SUBJECT: COMMISSIONER OF HEALTH AND SOCIAL SERVICES
WHEREAS, a professionally fully qualified commissioner is necessary to understand and meet the myriad special problems Alaska has in health and the provision of basic human services; and

WHEREAS, Alaska also needs a commissioner of substantial medical stature to have standing and credibility nationally among the community of chief state health officers; therefore

BE IT RESOLVED, that the Alaska State Medical Association presents John Middaugh, M.D., Wayne Myers, M.D. and Jerry Schrader, M.D. to Governor Sheffield as candidates for the position of Commissioner of Health & Social Services; and

BE IT FURTHER RESOLVED, that, if neither Dr. Middaugh nor Dr. Myers nor Dr. Schrader is acceptable to Governor Sheffield, the Association offers its good advice to him concerning other candidates under consideration for the post of Commissioner of Health & Social Services.

RESOLUTION NO. 84-19
SUBJECT: PATIENT ADVOCACY
WHEREAS, physicians are acutely aware of the cost of medical care, and

WHEREAS, there are various laws and regulations which must be dealt with in the practice of medicine, and

WHEREAS, the current DRG law threatens to interpose itself between hospitals and patients and physicians in the matter of cost restraints versus good medical care; now therefore be it

RESOLVED, that the American Medical Association reafirms that physicians are the prime patient advocates, are not rationers of medical care and will continue to utilize diagnostic and therapeutic measures and facilities in the best interest of the individual patient.

RESOLUTION NO. 84-21
SUBJECT: SCIENTIFIC UNREALITY OF DRG SYSTEMS
WHEREAS, DRG concepts, as basis mechanisms for hospital and physician reimbursement are theoretical, untested and are politically inspired, and

WHEREAS, punitive economic and legal sanctionsm coercing hospitals and physicians into compliance with laws unrelated to scientific medical reality will destroy the morality of both, causing inevitable divisive rancor and further opportunities for public accusations and regulatory intrusion.

THEREFORE BE IT RESOLVED, ASMA rejects the concept of any DRG system as a basis for hospital or physician payment, and

FURTHER BE IT RESOLVED, ASMA urges AMA argue that the scientific unreality of DRG systems as a basis for determination of health care costs and reimbursement renders them completely unsuitable for the purpose and as such should be discarded rather than expanded.

RESOLUTION NO. 84-23
SUBJECT: EXECUTIVE DIRECTOR
WHEREAS, Martha MacDermaid is forever sweet, willing, and able, and

WHEREAS, she treats all of her demanding charges with fairness and equality, according to the rules, and

WHEREAS, she applies her abilities well in an amount far beyond the requirements of her position.

BE IT RESOLVED, that the ASMA recognize her abilities and Thank her for her efforts on its behalf and offer her our continued support in her efforts.

RESOLUTION NO. 84-28
SUBJECT: FREE CHOICE
WHEREAS, the Code of Ethics of the American Medical Association and that of many specialty associations have recommended that each patient must have a free choice of physician, and

WHEREAS, free choice is in the interest of the patient, and

WHEREAS, free choice is upheld by legislation in Alaska workers' compensation statutes.

BE IT RESOLVED, that the ASMA reaffirm that such a free choice of physician be maintained for any and all patients.

RESOLUTION NO. 84-29
SUBJECT: ASMA GOALS
WHEREAS, the good old days may not have been all that great, but they weren't all that bad either, and

WHEREAS, we now have DRG's, IPA's, PRO's, CNM's, CTU's, PPO's, CME's, PAC's, PVC's and another blizzard of acronyms, and

WHEREAS, things just don't seem to be as much fun as they were before.

THEREFORE BE IT RESOLVED, that the good old members of the Alaska State Medical Association turn their vision squarely back to the good old days, when men were men, women were women, doctors were doctors, nurses were nurses, patients were patients, and most everyone seemed to know the difference.

RESOLUTION NO. 84-30
SUBJECT: STATE BOARD OF LICENSURE
WHEREAS, many Alaskans apparently want to be licensed by the State of Alaska in one way or another real or imagined allegedly health-related endeavor and enterprise, and

WHEREAS, the legislature is annually embroiled with both these requests and the duty of performing sunset review of any number of already existing boards, and

WHEREAS, the general level of frustration on the part of a determined suppliant, beleaguered legislator and skeptical physician only increases with the annual turn of these cycles.

THEREFORE BE IT RESOLVED, that the Alaska State Medical Association urge legislative formation of the Alaska State Board of "Fill in the Blank", whose membership is limited only by the governor, whose budget is limited only by the grant-writing ability of the board, whose sun shall never set, whose motto is *caveat emptor*,whose sole duty is to grant a license to whomever applies in the heretofore unlicensed health endeavor of their choice, and whose decisions are appealable only to the majority caucus of the House and the Senate.

RESOLUTION NO. 84-31
SUBJECT: ALASKA STATE HOSPITAL ASSOCIATION
WHEREAS, the Alaska State Hospital Association has appointed a physician to serve as a voting member of its board of directors, and

WHEREAS, there will be many difficult medical care issues to resolve in the next few years by Alaska Physicians, and Alaska Hospitals.

BE IT RESOLVED, that the ASMA invite the ASHA to send a representative to each of the ASMA Council meetings and to the ASMA Annual meeting, and

BE IT FURTHER RESOLVED, that the ASMA ask the ASHA for permission to appoint the physician who will serve as a voting member of the ASHA Board of Directors, and

BE IT FURTHER RESOLVED, that the ASMA ask its Bylaws Committee to draft a bylaws change to allow a non physician member of the ASHA Board of Directors to become a voting member of the ASMA Council and the ASMA Annual Meeting of its delegates.

RESOLUTION NO. 84-32
SUBJECT: THANKING THE SPEAKERS
WHEREAS, the Speakers have been stimulating and informative, therefore

BE IT RESOLVED, that the Alaska State Medical Association thank each speaker for their contribution toward making our 39th Annual Meeting a success.

RESOLUTION NO. 84-33
SUBJECT: THANKING THE EXHIBITORS
WHEREAS, the success of the Alaska State Medical Association Convention relies greatly on the support and contributions from exhibiting companies and their representatives;

THEREFORE BE IT RESOLVED, that the Alaska State Medical Association sincerely thank the pharmaceutical and other companies for their exhibits and contribution toward making our 39th Annual Meeting a success.

RESOLUTION NO. 84-34
SUBJECT: THANKING CITIZENS OF VALDEZ

WHEREAS, the City of Valdez is in a glorious setting, and

WHEREAS, the atmosphere of a city is dependent on the efforts of the citizens, therefore

BE IT RESOLVED, that the Alaska State Medical Association thank the citizens of Valdez for their hospitality and their contribution toward making our 39th Annual Meeting a success in their beautiful community.

RESOLUTION NO. 84-35
SUBJECT: THANKING DR. GERARD
WHEREAS, Bernard Gerard, M.D. lobbied and labored diligently to have the ASMA Annual Meeting in his beautiful community a memorable and successful event;

BE IT RESOLVED, that the Alaska State Medical Association thank Dr. Gerard for all his efforts and arangements toward making the 39th Annual Meeting a resounding success.

RESOLUTION NO. 84-36
SUBJECT: THANKING STAFF OF CIVIC CENTER
WHEREAS, the Valdez Civic Center is a delightful facility, and

WHEREAS, Ray Pittman, Director of the Civic Center, and his capable staff have gone above and beyond thaeir duties in accommodating our needs,

THEREFORE BE IT RESOLVED, THAT THE Alaska State Medical Association thank Mr. Pittman and his staff for their splendid support toward making the 39th Annual Meeting a success.

RESOLUTION NO. 84-37
SUBJECT: THANKING THE CATERERS
WHEREAS, the food and service has been superb and delightful,

THEREFORE BE IT RESOLVED, that the Alaska State Medical Association thank Pipeline Catering for their fine service and culinary delights.

PRESIDENT'S PAGE

Colorado Gov. Richard Lamm aroused a storm of protests when he asserted that the elderly have a "duty to die". Since the remark he has attempted to justify it with attacks on our health care system. Lamm said, "One billion dollars a day are spent on health care in the United States. If we don't get **control** over health care costs we are going to see a second-rate economy supporting a magnificent - at least a magnificently expensive - health care system."

A recent report by the Brookings Institute, a Washington-based policy analysis group, concluded that any appreciable restraint on health expenditures will come only by **rationing medical care**. Better management, elimination of duplicate facilities, and shifting to outpatient services will not be large cost-saving activities.

James H. Sammons, M.D., Executive Vice President of the AMA, has recently written a letter to all hospital staffs asking them to carefully document their experience with PPS (Prospective Payment System) and the change from a cost-based to a DRG-based reimbursement. He also asks the hospital staff members to "ensure that the quality of Medical Care is not compromised."

Among the resolutions passed at the recent Alaska State Medical Association Meeting in Valdez is Resolution 84-19 "Patient Advocacy".

> Whereas, physicians are acutely aware of the cost of medical care, and
>
> Whereas, there are various laws and regulations which must be dealt with in the practice of medicine, and
>
> Whereas, the current DRG law threatens to interpose itself between hospitals and patients and physicians in the matter of cost restraints versus good medical care.
>
> Now therefore be it resolved, the Alaska State Medical Association reaffirms that physicians are the prime patient advocates, are not rationers of medical care and will continue to utilize diagnostic and therapeutic measures and facilities in the best interest of the individual patient.

These messages are all very clear, and the battle lines have been drawn. Some of the politicians and bureaucrats will attempt to **control** the cost of health care by rationing, and they will encourage physicians and hospitals to be the rationers. In these United States of America in 1984 our people enjoy the best health care any human population has ever known; we must not let our government dismantle it.

Keith M. Brownsberger, M.D.
President, ASMA

EDITORIAL

In the past months the Executive Committee of Providence Hospital in Anchorage requested of its President to send a letter to Senator Stevens regarding their concern about the possible effect of current HCFA regulations on the health care of the Medicare population. Below is part of that letter printed in the Journal for your edification and thought, hoping other medical staffs throughout the state will consider similar action.

The final Medicare prospective payment regulations require physicians to attest to the validity of the primary and secondary diagnoses and the procedures performed and to sign a certification form. These regulations require that the following statement must immediately precede the physician's signature:

"I certify that the identification of the principal and secondary diagnosis and the procedures performed is accurate and complete to the best of my knowledge. (Notice: Intentional misrepresentation, concealment, or falsification of this information may, in the case of a Medicare beneficiary, be punishable by imprisonment, fine or civil penalty.)"

The requirement of this statement was not mandated by the DRG law but was instituted by HCFA's final rule implementing the law.

There are two major objections to the rule. The first is that the physician is being required to certify that the hospital billing is correct. This is in no way a physician's job. Such certification is the province of the hospital administrator. The second and more important objection relates to the language of the certification form. As such it is obnoxious to physicians; its tone impugns the honesty of the person called upon to sign it.

Many health care organizations have called for the removal or modification of this insulting statement. Included are the American Medical Records Association, the American Society of Internal Medicine and the American Medical Association.

HCFA Deputy Administrator James Scott is reported to have made the following statement, "I want to emphasize that the regulation requires the attending physician to perform a single act attesting to the accuracy of the diagnostic and procedural information, not to its coding. We do not expect the physician to be responsible for the medical record departments' coding of a case." This statement sidesteps the main issues and indicates a lack of insight into the concerns of the physicians and others.

HCFA Administrator Carolyne Davis is aware of the objections and has held an "exploratory" meeting with the AMA and other groups.

Only time will tell whether government wishes to dismantle our fine system of medical care.

Wm H. Bowers, M.D.
Editor

References:
1. Stone PH, Turi ZG, Muller JE. Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104:672-681, September 1982.
2. Antman E, Muller J, Goldberg S, et al: Nifedipine therapy for coronary-artery spasm: Experience in 127 patients. *N Engl J Med* 302:1269-1273, June 5, 1980.

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E.S. ("STU") RABEAU, M.D.
1920-1984

On May 15, 1984, Alaska lost one of her most eminent and esteemed physicians when Dr. Stu Rabeau died of a myocardial infarction while attending a professional meeting in Los Angeles. At the time of his sudden death, he was Deputy Commissioner of the Alaska Department of Health and Social Services. His distinguished professional career had spanned nearly four decades, including seventeen years in Alaska where it began and ended.

Erwin Stuart Rabeau was born October 20, 1920, in Madison, South Dakota. After a B.S. degree from Roosevelt University in 1941, he attended the University of Chicago Medical School in an accelerated wartime program, graduating in 1944. The following year he interned at Grand Central Hospital in New York City.

Entering the Commissioned Corps of the U.S. Public Health Service in April 1946, he was detailed as Medical Officer to the Alaska Native Service (BIA) hospital in Kotzebue at a time when PHS officers often filled difficult BIA assignments. He remained at Kotzebue for the next eleven years, much of the period as the only physician north of Fairbanks.

During the years Rabeau spent a good part of his time traveling, often by air and sometimes by dogteam to the hospitals at Barrow, Nome and Tanana, and to the many Inupiat villages of northern Alaska. He performed hundreds of major operations, at most of them assisted only by a nurse giving open drop ether anesthesia. He also gave care and comfort, before effective drugs were available, to many families stricken with tuberculosis.

He became one of the best known personalities in northern Alaska, not only through his ubiquitous travels, but also because of his shortwave radio "sched" in which he discussed medical problems every night, from wherever he was at the time, with dozens of school teachers around the Territory.

In July 1957, Rabeau came in out of the cold to serve as Clinical Director of the recently built Native Hospital in Anchorage. During the next three years, he became the Deputy Area Director and supervisor of the five field hospitals of the Alaska Native Health Service, which by now was under the direction of the Public Health Service. He was the first to see clearly the value of and need for a field program stressing preventive services, and was responsible for initiating medical field trips to the villages of the Aleutian Chain, Kodiak Island, and Lake Iliamna. For a few months in 1959, he served as Acting Area Director.

Rabeau left Alaska in September 1960 to take a Master of Public Health Degree at Berkeley. Thereafter he was assigned to Bemidji, Minnesota as the Director of the Indian Health Sub-Area and the following year became Indian Health Area Director at Aberdeen, S.D., where he managed a complex and a politically sensitive health program for a six-state region.

In July 1963 he came to the Indian Health headquarters in Silver Spring, Maryland as Deputy Director and after one year was promoted to Chief, Division of Indian Health, a position carrying the rank of Assistant Surgeon General in the Public Health Service. He served with distinction in the capacity until 1969, when at his own request, he renounced his "star" grade and moved to Tucson, Arizona, as the Associate Director of the Indian Health Service (IHS) and Director of its Office of Research and Development.

During his Tucson years, Rabeau brought initiative and innovation to the national IHS training and research programs, gathering around him some highly talented researchers in several disciplines. Among the many lasting accomplishments of these years in which he had a prominent role were the Community Health Representative Program, serving many Indian tribes of the lower 48; the Epidemiology Training Program, which trained health program managers in the techniques of epidemiological problem-solving, a planning metholdology known as the Resource Allocation Module; and perhaps most important, the so called Patient Care Information System or PCIS, the data system used in most Alaska Native Hospitals and by the State Public Health Nurses to summarize and link their health records.

Dr. Rabeau retired from the Public Health Service in 1981 after 35 years of active duty, and shortly thereafter returned to Alaska as the Director of the State Division of Public Health in Juneau. He was appointed Deputy Commissioner by Governor Sheffield in 1983. During these years he provided firm leadership and new direction to the health programs of the Department. Among his major interests were the hepatitis B vaccination program in western Alaska, legislation for further Community Health Aide training, and the problems of catastrophic illness.

A man is more than his accomplishments, impressive as they are. Stu Rabeau was a man of many contrasts. One of the last of the true "dogteam

doctors", he also was an avid proponent of the latest management techniques and was convinced that computerized information retrieval was the foundation of modern health care. Although he was an imposing figure physically with a blustery and some might even say intimidating style, everyone who had more than a superficial acquaintance with him knew he was warm, gentle, considerate, and helpful to a fault. Some have described him as rough-edged and uncouth, yet he could deal comfortably and effectively in the highest councils of government.

On his return to work in Alaska in 1981 after a hiatus of 21 years, it was not the doctors or bureaucrats who remembered him - for a new generation had sprouted - but rather the countless Alaska Native people to whom he had been doctor, counsellor, hunting companion, and friend. Throughout the northern half of Alaska, they warmly and incredulously greeted again the man who once had been known as the "King of Kotzebue".

I cannot close this brief record without reference to his family life. After 38 years of bachelorhood, he found the one he had been waiting for in the person of Mary Ann Stipek, a nurse who had worked in the INH ambulatory chemotherapy program at Kotzebue during his years there. They were married in 1958 and enjoyed together over a quarter of a century of mutual devotion. Mary Ann and five children, four daughters and a son, survive him.

We will all miss him.

Robert Fortuine, M.D.

ASMA AUXILIARY NEWS

ASMA Valdez Convention Inspires 1984-85 Auxiliary Project

Let's preserve our Alaska State medical heritage! At the ASMA Valdez convention, the Auxiliary decided to make this their project for the coming year. With the project the Auxiliary will celebrate the Silver Anniversary of Alaska Statehood. We are a young medical community yet one that is growing quickly. It is important to take time now to document our medical history before it is forgotten. Enthusiastic words from Valdez Mayor, Susie Collins, added impetus towards the Auxiliary adopting the history project. Several photographic identifying sessions were initiated last year by 1982-83 Auxiliary President, Marge Muzzall. Each Auxiliary member was encouraged to begin collecting oral history notes on Alaskan physicians they know. Information forms and guidelines will be sent during the year to help gather the information. A possible oral history workshop has been suggested by Mary Hale for next year's convention in Haines. A beginning notebook of histories and photo's would be compiled as a result. The project promises to be exciting and rewarding.

The social aspects of the Valdez convention met with equal enthusiasm. The lovely progressive luncheon at the homes of Mayor Susie Collins, Dr. & Mrs. Gerard, and Judy Maykowskyj, wife of the Superintendent of Schools, was delicious and a special treat. The highlight of the luncheon was the transportation of Auxiliary members in the Valdez Gold Rush open air jail. The Auxiliary did indeed make Valdez history (See photo)! George Pekins, Instructor at Valdez Community College gave a very informative talk and slide show on glaciers and the talented Valdez Jazz Dancers entertained at the Presidents' Banquet.

During the convention the Auxiliary announced the winners of the Annual Auxiliary Scholarship. Susan Ohmer is from Petersburg and will be attending the University of Denver in the fall. Michael Fallon is from Fairbanks and will be a first year student at the University of Washington Medical School. There were 76 applicants for the scholarship which is awarded to students interested in pursuing medical or medically related fields.

Newly elected officers for the 1984-85 Auxiliary year are: President-Elect, Carolyn Crouch; Secetary, Judy Blackwell; Treasurer and Membership Chairman, Susan Bowers. Gail Behymer will serve as AMA-ERF Chairman of the Scholarship Committee.

Special thanks to Jane Erkman and her officers; Aaltje Smith, Secretary; and Linda Sutherland, Treasurer, for their dedication to the Auxiliary during this past year.

I look forward to a stimulating year with the Auxiliary, a year with good communication between Auxiliary members all over the state, success on our history project, and one with memories of good times and commitment.

Lorrie Horning
President
AMSA Auxiliary

Progressive Luncheon, Dr. Gerard inside the wagon.

POST GRADUATE COURSES

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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

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ALASKA MEDICINE

Volume 26, Number 4
October/November/December 1984

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Official Journal of the Alaska State Medical Association

4107 Laurel, Anchorage, Alaska 99508

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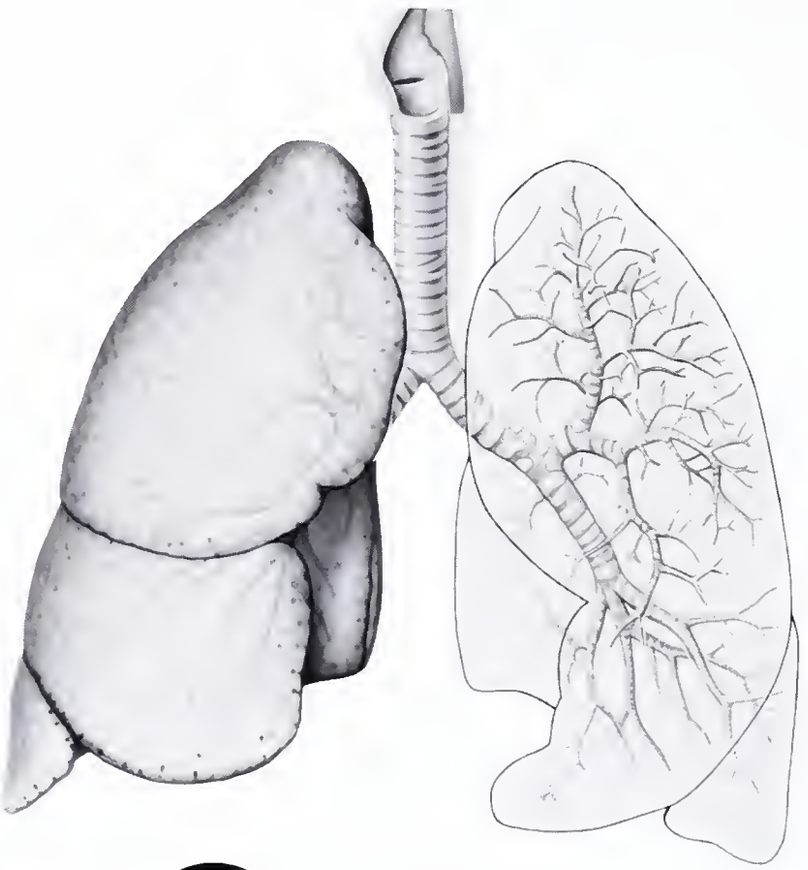

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offers effectiveness against the major causes of bacterial bronchitis

H. influenzae, *H. influenzae*, *S. pneumoniae*, *S. pyogenes*
(ampicillin-susceptible) (ampicillin-resistant)

Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* — If an allergic reaction to Ceclor* (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest* tablets but not with Tes-Tape* (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor* (cefaclor, Lilly) There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Note Ceclor* (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

Additional information available to the profession on request from Eli Lilly and Company Indianapolis, Indiana 46285

Eli Lilly Industries, Inc
Carolina Puerto Rico 00630

400441

NONSTEROIDAL ANTI-INFLAMMATORY DRUGS (NSAID), ANOTHER NEPHROTOXIN

Steven B. Tucker, M.D.

Abstract

Treatment with the increasingly popular nonsteroidal anti-inflammatory drugs (NSAID) may be complicated by acute renal failure with or without the nephrotic syndrome, as well as fluid and electrolyte disturbances. The clinical characteristics of these syndromes, possible pathophysiology, and recommendations for prevention and treatment are reviewed.

Nonsteriodal anti-inflammatory drugs (NSAID) are a class of medication which is being prescribed in an increasing manner. They are used for the treatment of a wide variety of medical situations, including chronic arthridites, gout, serositis and menstrual cramps to name but a few. With increaseing use, it has become apparent that renal toxicity, although uncommon, posses a potential serious risk. NSAID can produce a variety of nephrological syndromes (Table I).

Functional Acute Renal Failure (ARF)

In this form of ARF, there is a gradual deterioration of renal function which is generally not recognized until an elevated BUN and/or creatinine is noted or symptomatic uremia develops.

Who Is At Risk?

From retrospective reviews of suspected cases of NSAID toxicity several commonly encountered groups of patients appear to be at high risk (1-4). Such groups include patients with volume depletion, shock, sepsis, congestive heart failure, cirrhosis with ascites, nephrotic syndrome and diuretic users. All share the feature of decreased effective circulatory volume (high renin status). In addition advanced age (older than 60), atherosclerosis (patients with a history of hypertension, diabetes mellitus, myocardial infraction, angina pectoris or claudication), and those with intrinsic renal disease also seem more susceptible to NSAID toxicity.

John Blackshear et al in a review of his 24 cases of NSAID toxicity found that 18 of 24 patients were over 60 years old (2). In addition, 6 of 24 patients had congestive heart failure while 12 of 24 patients had had treatment for gout. Fifteen of 18 taking long term medication were also taking a diuretic and 16 of 20 patients had underlying vascular disease.

Ciabattone and his group from Rome, studying the effects of sulindac (Clinoril) and ibuprofin (Motrin) in patients with glomerulo-nephritis found a significant decrease in 6-keto prostaglandin F-1 Alpha (a breakdown product of prostacyclin) and decreased prostaglandin E2 associated with 40% increase in creatinine while on ibuprofen (not seen with sulindac) (3). These studies underscore the inportance of carefully selecting candidates for NSAID use. It is of interest that these are similar risk factors for aminoglycoside nephrotoxicity and contrast nephropathy.

Why?

Recent studies have shown that in healthy young persons with healthy kidneys, intact renal cyclooxygenase activity is **not** essential for maintenance of renal blood flow and glomerular filtration rate. However in situations of decreased effective circulatory volume (high renin states) and impaired renal function, renal blood flow and GFR may depend on an intact cyclooxygenase response particularly epoprosterol (formerly called prostacyclin or PG12) for intrarenal vasodilation and subsequent autoregulation. If, in this setting,

NSAIDs with their prostaglandin inhibiting effects are employed, uncompensated renal vasoconstriction may occur and functional acute renal failure (ARF) may ensue. This type of functional ARF responds quickly to discontinuation of the offending drug and volume expansion.

Interstitial Nephritis

The second form of ARF seen with NSAID is dramatic and somewhat unique and has been described with virtually all NSAID (2-16). In this type of ARF the onset is sudden, often characterized by anasarca, uremic symptoms, hematuria, flank pain and proteinuria in the nephrotic range (defined as greater than 3.5 grams per 24 hours).

In a recent review by Abraham and Keane, 3 seperate types of acute interstitial nephritis (AIN) were identified (Table I) (4). In the 36 cases reviewed, ARF with nephrotic syndrome (NS) was found in 26 of 36 cases while ARF without NS was noted in 6 of 36 cases. The third subtype characterized by NS without ARF was identified in 4 of 36 cases.

Typical allergic nephritis is characterized by fever, rash, eosinophilla, eosinophiluria and ARF. It usually appears two weeks after exposure to offending drugs (87% of such cases). Only 19% of NSAID AIN had such a syndrome. Nephrotic syndrome occurred in less than 5% of allergic nephritis while in NSAID AIN patients had been taking these medications approximately 5 months, a much longer time than patients with the allergic variety of nephritis (less than two weeks).

Despite massive proteinuria (generally associated with glomerular disease) most renal biopsy specimens of of NSAID AIN revealed normal glomeruli by light microscopy. In biopsy series the majority showed interstitial edema with focal to diffuse mononuclear infiltrates. On immunoflorescence no significant deposits of antigen/antibody or complement were noted. On electron microscopy diffuse foot process effacement as seen with minimal change disease (also called NIL disease lipoid nephrosis, foot process disease) was uniformly noted. While the exact pathophysiology remains undefined, the same predisposing factors seen with functional NSAID ARF are found. However, healthy people can be seriously affected as well. No tubular dysfunction is apparent as the fractional sodium excretion (FENA) is less than 1%.

The leading theory concerning etiology at present is that the condition is a delayed hypersensitivity response. Supporting this is the long exposure time and increased numbers of "T" lymphocytes found in the interstitial infiltrate. Other contributing factors may be a "pile up" of other prostaglandin metabolites which can alter the membrane permeability and increase inflammatory mediators. This type of renal involvement can be severe in that 11 of 36 cases reviewed by Abraham required temporary dialysis, two never recovered renal function, and two patients died (4).

Hyperkalemia

Findlay el al described three patients who developed life-threatening hyperkalemia following treatment with indomethacin (Indocin) for gout (16). Metrick reported similar findings with piroxicam (Feldene) and hyperkalemia has been reported with virtually all NSAID (15).

Hyperkalemia is thought to be secondary to an induction of hyporeninemic-hypoaldosteronism, particularly in individuals with diabetes mellitus and chronic renal failure; ie, states characterized by defective counterregulatory responses to hyperkalemia. Treatment consists of stopping the use of NSAID and standard therapy of hyperkalemia in life threatening situations.

Salt And Water Disturbance

There is little doubt that NSAID can cause mild Na retention, which in patients with congestive heart failure and ascites may be of significance. In addition, these drugs can significantly blunt the action of diuretics and lead to fluid retention (edema, CHF) and increased blood pressure. This is thought to be related to inhibition of prostacycin which is a potent renal vasodilator. (Is prostaglandin third factor?)

In a study by Dzou et al, a dramatic increase in vasodilatory prostaglandins in CHF was noted (17). It is therefore easy to see that blocking the production of such vasodilating prostaglandins may lead to unopposed renal vasoconstriction and thus to salt and water retention. Such retention could result in edema, pulmonary congestion and/or dilution hyponatremia.

Prevention And Therapy

As with any drug, the physician should be sure the NSAID is required, particularly in high risk patients. For example in osteoarthritic patients ASA can be used since it has little significant nephrotoxicity (17, 18). In patients with acute gout, at risk for NSAID toxicity, colchicine orally or intravenously may be as effective as the NSAID. For patients with frequent gouty attacks, allopurinol should be considered for preventive treatment. If NSAID are required, sulindac (Clinoril) may be less problematic (3).

When NSAID are employed in high risk patients, monitoring the BUN, serum creatinine and electrolytes as well as urinalysis may detect early functional ARF, proteninuria or electrolyte distrubances.

In all cases of suspected NSAID related syndromes, discontinue the medication immediately. This alone should promptly reverse functional ARF, hyperkalemia, and sodium retention.

If interstitial nephritis develops (types 1-3) oral

...efore prescribing, see complete prescribing information in K&F CO. literature or *PDR*. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-saving agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide. Dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously, and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

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steriod therapy has widespread anecdoctal success (1mg/kg) although no controlled data exists. In the author's opinion, unless significant contraindication exists, short course steriod therapy is well tolerated and seems justified until more data is available.

Edema should be treated by the time honored therapy of sodium restriction and judicious use of diuretics. For those patients with severe renal failure dialysis should be employed.

Conclusions

Use of NSAID has proliferated to the point that Advil and Nuprin (ibuprofen) are now available over the counter. This review does not suggest they be abandoned; however, awareness of their potential complications, paritcularly in high risk patients and modification of prescribing patterns may have an impact on the ever increasing frequency of significant problems related to their use.

(Special thanks to Phyllis Mickelson for secretarial assistance.)

Table I

A. Hemodynamically mediated renal failure (ARF) — (functional ARF)
B. Interstitial nephritis (IN)
   1. ARF with nephrotic syndrome (NS)
   2. ARF without NS
   3. NS without NS
C. Hyperkalemia
D. Sodium retention and/or hyponatremia

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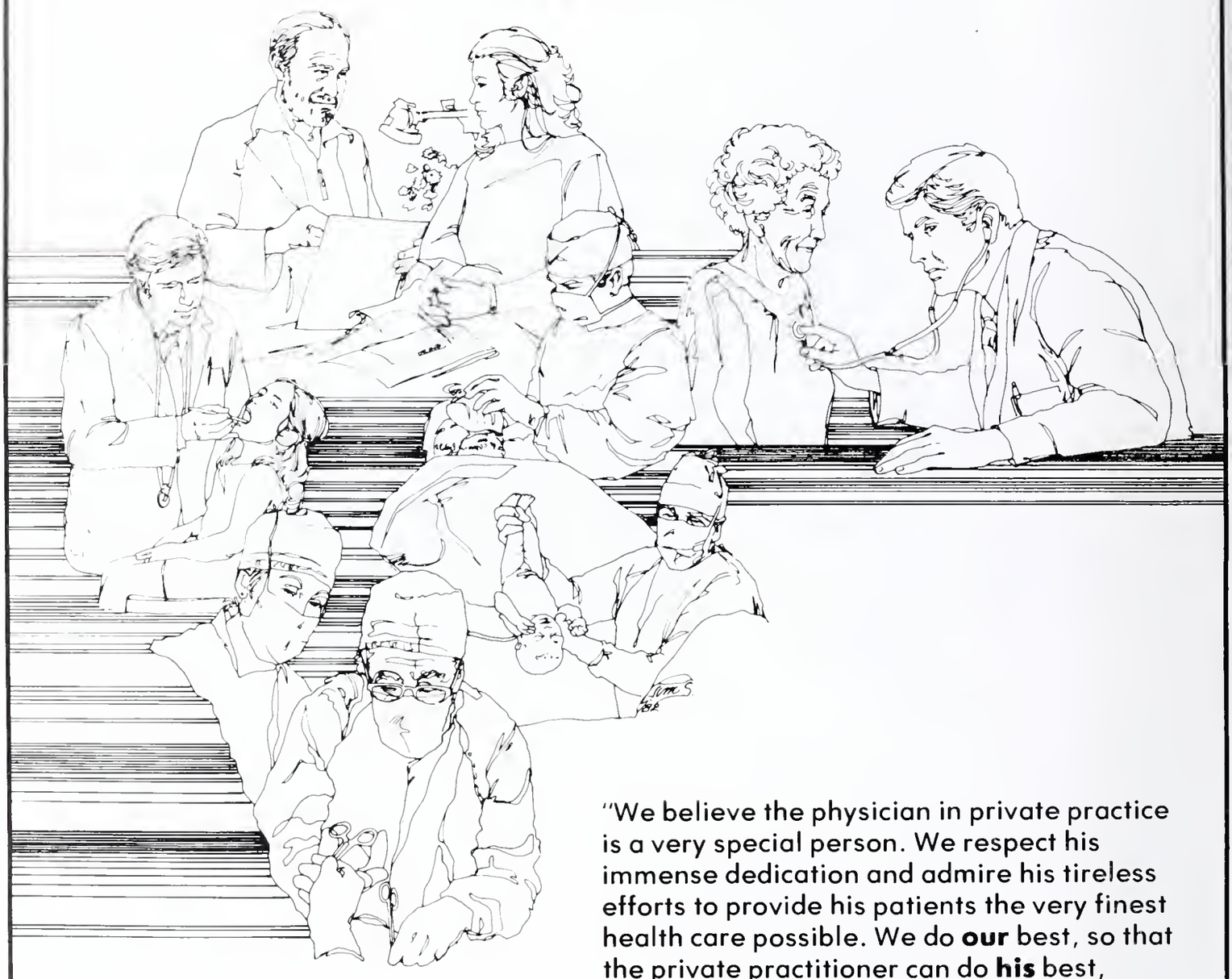

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ALL THAT COUGHS IS NOT BRONCHITIS

Norman J. Wilder, M.D. FCCP

Chronic cough is a common symptom. In my practice of pulmonary disease, I see several patients each week with the main symptom being "cough". Of course many patients have a cough of short duration associated with a recent upper respiratory infection. For the purposes of this paper, I will be discussing cases in which no clear-cut etiology for the cough is apparent and the symptom has persisted for at least three weeks.

The typical patient gives a history of treatment with at least one course of antibiotics. The cough may have transiently become better with the antibiotic, but promptly recurs. Various cough preparations yield similar results. Most patients are self-referred and have, on the average, seen one or two other physicians, been treated with two or three different courses of antibiotics, and been given at least one or two cough preparations. If tests have been performed (usually a chest x-ray and CBC), they are normal.

Several review articles have been published that discuss chronic cough. In addition to a detailed history and exam, recommendations for the evaluation of cough include: CBC, chest x-ray, and possibly sinus films. If an abnormality is present on the chest x-ray, then sputum cytolgy and culture would be ordered. Consideration for indirect laryngoscopy, pulmonary function testing, and fiberoptic bronchoscopy is made depending upon the other test results and the response to treatment.

Several cases will be presented now to review some of the etiologies of chronic cough in patients that I have seen. In most cases a detailed history revealed a probable etiolgy, confirmed by further testing or response to treatment.

Cough in a Cross-Country Skier

A sixteen year old high school track star noted the onset of a nagging cough and mild dyspnea during fall practice. Usually in the top five skiers, he was quite disturbed by his drop in standing to tenth, despite vigorous training. He was virtually asymptomatic except for the cough and mild dyspnea with exercise. He seemed to be worse in cold air. All other details of history were non-contributory, and the physical exam was entirely normal. Chest x-ray and screening lab panel were normal. Pulmonary function tests were at the upper limits of normal, but post-bronchodilator studies showed a tendency for improvement (not statistically significant). I felt he had a very mild form of exercise-induced bronchospasm and placed him on an oral theophylline preparation and a beta 2-agonist, metered-dose inhaler. The cough resolved as did the mild dyspnea, and his standing in skiing improved again.

Chronic cough as the sole manifestation of bronchial asthma was recently reviewed. In the six cases reported, all had normal baseline spirometry and a negative history and physical exam except for the chronic cough and a family history of atopy. All patients were given methacholine challenges and showed at least a 20% drop in measured flow rates. The six patients were treated with bronchodilators and had complete remission of their cough, only to have it return with cessation of treatment. Previous papers have discussed the correlation of chronic cough to mild asthma. In my experience, mild asthma is the most frequent cause of chronic cough except for chronic bronchitis. The latter is usually obvious, however, from the history of sputum production and the response to treatment with antibiotics.

Cough Associated with "Hypertension"

A fifty-two year old businessman had developed hypertension and was placed on a diuretic and propranolol. He had smoked one to two packs of cigarettes daily for most of his adult life. He developed a cough and overt wheezing after beginning treatment for hypertension, which the attending

physician associated with the propranolol treatment. He discontinued the propranolol and placed the patient on a "cardioselective" beta-blocker, metoprolol. The wheezing resolved, but the patient still had a cough that did not seem to respond to antibiotics or cough preparations. He sought a "second opinion" from me about one year after beginning the treatment for hypertension.

The problem in this patient is clearly related to the use of beta-blockers. History revealed long-standing, intermittent wheezing and chest tightness for a number of years, that responded to an over-the-counter "asthma" medication. He had never mentioned this fact to his physician. There was also a history of atopy in the family. Initially, the patient responded to discontinuance of the metoprolol and the intermittent use of a metered-dose inhaler, but over the last two years has had progression of his asthma to the point of requiring intermittent steroids for control.

As in this last case, most physicians are aware of the possible precipitation of wheezing in patients with "sub-clinical" asthma, by the use of propranolol. Not commonly known, however, is that even the "cardio-specific" (beta 1) beta-blockers can precipitate severe wheezing or other pulmonary symptoms such as cough or chest tightness. Research has shown that the lung's beta-adrenergic receptors are approximately 15% beta 1. Additionally, the beta 1-blockers have a minor degree of beta 2 action. Asthma symptoms have been reported from every beta 1-blocker currently on the market. Even death from severe bronchospasm has been seen from the administration of beta 1-blocker eye drops.

Cough Unresponsive even to Bronchodilators

A forty-two year old municipality supervisor and exercise enthusiast noted the gradual progression of dry hacky cough. In much a similar manner as with the first case, his cough was hoarse with exercise. His cough became persistent and even at rest he would have severe episodes of coughing. After several months of unsuccessful treatment, he was referred to me for evaluation.

The patient's history was completely unremarkable except as already noted. There was no history of smoking, atopy, or significant family history. He had no occupational exposures. His physical exam and studies to date (chest x-ray, CBC, SMA 12, sinus films, intermediate PPD skin test, and serologies to a variety of pulmonary pathogens) were entirely normal. Screening spirometry was within normal limits except for a decrease in the forced vital capacity. There was no bronchodilator response to testing, but he seemed to get better with a metaproterenol inhaler. The medication did not totally relieve the cough, so a short course of prednisone was prescribed. No sustained response occurred, though once again he seemed to be better at first. He returned to see me about two months later with the cough being worse than it had ever been. At that point, fiberoptic bronchoscopy was performed and a bronchial adenoma at the take-off of the upper lobe was seen. The tumor was resected and his cough has resolved.

Of all causes of chronic cough, a tumor is probably the most feared. Cough is certainly one of the signs of possible lung cancer. Fortunately for the last patient, the tumor was resectable and benign. In looking at several review articles and reviewing my own experience, cough seems to rarely be the only presenting symptom of bronchogenic carcinoma. During the course of the disease, however, it is a common symptom. Also, other causes of cough are seen much more commonly.

Discussion

A cough can be produced by a wide variety of disease conditions. Literally, any disease of the thorax or its contents can be the etiology of cough. In the cases presented briefly, the emphasis was on conditions of a chronic nature, that were not readily diagnosed by chest x-ray, and which did not respond to antibiotics and cough preparations. In my experience, under these circumstances, the cough is almost always due to mild asthma.

Asthma manifests itself as a broad spectrum of illness, from a mild cough with exposure to cold air or exercise to a life-threatening condition requiring quick intervention. Most physicians tend to think of asthma as requiring actual wheezing for the diagnosis. Mild asthma may literally be no more serious than a chronic cough or upper respiratory infections that "hang on" for a prolonged time. Oftentimes, there is a history of atopy, other family members with asthma, or recurrent bronchitis as a child. I would certainly consider the diagnosis in any patient with a chronic cough.

There has been a lot of debate lately about the role of post-nasal drip in the etiology of cough. The articles and subsequent letters to the editor, do not clarify the question. If post-nasal drip is considered seriously as the etiology of cough, some authors have found the combination of an antihistamine/decongestant and an antibiotic to be curative in all cases.

Chronic bronchitis is certainly a common cause of cough, and is usually diagnosed and treated properly. In the same series in which post-nasal drip was examined, the cessation of cigarette smoking was found to be effective treatment for the cough of chronic bronchitis. The close correlation with smoking, the typical sputum production, and the responce to antibiotics and cessation of smoking make chronic bronchitis relatively easy to diagnose and treat.

Three other causes of cough should be considered in the differential diagnosis. Gastroesophageal reflux may cause chronic cough and

is also associated with asthma. History and upper gastrointestinal endoscopic and roentgenographic series should make the diagnosis. Sarcoid and other interstitial diseases of the lung may cause cough, but the chest x-ray should be of significant help in the diagnosis. Mild left ventricular failure may mainifest primarily as cough and mild shortness of breath. Once again, the history physical exam, and chest x-ray should lead the physician to the proper diagnosis.

In summary, many conditions cause cough. Given several weeks chronicity, lack of response to antibiotics and cough preparations, and a normal chest x-ray, the diagnosis of mild asthma should be pursued and treatment with bronchodilators considered. As with the last case, a lack of response to treatment raises serious diagnostic considerations. Under these circumstances, referral to a pulmonary physician and possible bronchoscopy are warranted.

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INFANT APNEA SYNDROMES:

Part I

Harry Harrison Jr., M.D.

Introduction

A few years ago it would have been easy to discuss infant apnea and the *Sudden Infant Death Syndrome*. The literature was scant and there were only a few theories to which most of the medical community subscribed.

The topic of infant apnea has become one of the most intensely debated subjects of the medical community in the last ten years. Interest in infant apnea may be said to have begun in biblical times with ". . . this woman's child died in the night because she overlaid it," (I Kings 3:19-20). Since that time the process has been known under a variety of names. It was not until the early 1970's when medical researchers helped to describe *Sudden Infant Death Syndrome,* or commonly known as SIDS, that infant apnea blossomed into a major interest of research.

We will touch on what is SIDS, "near miss", periodic breathing and recurrent apnea, what constitutes a high risk infant and adequate evaluation, and recommendations for home apnea monitoring.

Epidemiology

Major effort has been expended to define the many terms associated with infant apnea. By definition, SIDS is the sudden and unexpected death for no apparent reason of a healthy, usually sleeping infant (4).

Generally, less than 5% of SIDS victims have been previously seen for an apneic episode while many infants with recurrent apnea do not demonstrate prolonged unrelieved apnea (20).

The incidence of SIDS has been well studied (6, 8, 35, 37). It is accepted to be 2 to 3 per 1,000 live births with a peak incidence between two and four months of age. It is the leading cause of death (excluding congential anomalies) from the first week to the first year of life. In the United States alone, 10,000 apparently healthy infants die of SIDS each year.

The incidence of SIDS in the Alaskan general population is unknown, but the rate in the Anchorage area is near 3 per 1,000 live births. The incidence in the "Native Alaskan" population was reported to be 2.17 per 1,000 live births in 1976 (12).

The concept of "near miss" SIDS was introduced in 1963 and while its intention was noble, there is controversial evidence to link this diagnosis to SIDS (17). The diagnosis is subjective because it implies that the infant would have not survived his cardiopulmonary arrest without timely intervention. Many of the infants have been found to have a specific cause for their event. This is in contrast to infants dying of SIDS. Several studies have shown that infants of "near miss" events demonstrated abnormal responses to alveolar hypoventilation and inhaled carbon dioxide (33,34). Many investigators prefer using prolonged or recurrent apnea to describe the event of "near miss" SIDS. We now know that "near miss" may be a result of more than a dozen distinct disease states, while Sudden Infant Death most often is inexplicable. What then is SIDS? It may be a mechanism of death which has many roads leading to the final destination. As you are aware, a discussion of infant apnea invariably weaves the fabric of SIDS and recurrent or prolonged apnea into a loosely knit circle. It is difficult to discuss the little we know regarding the mechanisms of apnea without alluding to the epidemiology of SIDS.

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Much of our knowledge about infant apnea has come by way of SIDS research and observations. For example, the work done by Naeye and Drage suggested that infants with recurrent apnea are different from normals histologically, anatomically and physiologically (27). These findings were confirmed by Petersen, et al in 1974 (31). It is not surprising that the peak incidence of infant apnea is (excluding the first week of life) between 2 and 4 months.

Prolonged apnea as defined by the American Academy of Pediatrics is "cessation of breathing for 20 seconds or longer, or as briefer episodes associated with bradycardia, cyanosis or pallor" (1). The extent to which recurrent apnea and SIDS are interrelated is under intense scientific scrutiny.

Recurrent apnea may be defined as the recurrent "abnormal cessation of air exchange due to cessation of all respiratory effort or only to cessation of air flow" (9). Several studies have examined cessation of air exchange in full term and preterm infants (16, 19, 40). Normal full term infants have only rare episodes of apnea exceeding 15 seconds while awake and 10 seconds during sleep. The preterm infant typically has apnea up to 20 seconds. These episodes of apnea are not clustered or associated with bradycardia and color change.

Infants may experience obstructive, central or mixed apnea. Obstruction of the upper airway is associated with continued respiratory movements without air exchange. These events occur during sleep. One of the most eloquent studies characterizing mixed and obstructive sleep apnea was done by the Sleep Research Center group at Stanford University (16). Their study population of 29 full term "near miss" SIDS and 30 normal infants demonstrated all three types of apnea as well as periodic breathing. The only statistically significant difference in these groups was the number of obstructive respiratory pauses during sleep.

Central apnea has been known as alveolor hypoventilation, nonfatal apnea of infancy, prolonged sleep apnea, decreased chemoreceptive responsiveness and even excessive periodic breathing. It has been defined as a lack of diaphragmatic movement for a period of 20 seconds or longer. Normal infants rarely demonstrate apnea greater than fifteen seconds. For practical considerations, apnea which is greater than 15 seconds or briefer episodes associated with cyanosis, bradycardia or pallor should be considered abnormal (5).

Infant apnea represents multiple clinical entities and may include infants with several pediatric problems (table 1).

When all of the identifiable diagnostic possibilities are excluded by means of appropriate testing, there remains a number of infants who have unexplained malfunction of their respiratory control system. These patients have been variably termed as having prolonged apnea.

High Risk Factors

Since the mechanism of apnea and SIDS remains elusive, much of our attention has turned toward identifying infants which may be at high risk for sudden death. The epidemiologic data suggests the environment potentiates altered physiology in affected infants. There is a 10-fold increased risk of recurrent apnea and SIDS in siblings of SIDS victims. In surviving twins there is a 20-fold increase regardless of zygosity (2, 3, 32). No available data suggests a genetic predisposition. Infants living in the lower socioeconomic families tend to be at higher risk, regardless of race or social background (9, 32, 36, 37). Mothers who are unmarried, young and have prenatal problems further increase the risk (2, 23).

Prolonged apnea and SIDS were found to have a higher incidence (21-fold increase) among previous intensive care unit neonates (24).

There may be a greater male preponderance (10% increase over females) but this is not different than male to female live births or infant mortality from all causes in the first year of life (6, 9, 13). It is important to mention that previously accepted factors in Table II have no relation to SIDS or probably prolonged apnea.

Evaluation

The generation of these risk factors should give us a predictive mechanism to identify infants at risk for SIDS. That is, unfortunately, not what happened. While there is no reliable screening test for SIDS, identifying infants with recurrent or prolonged apnea has been successful (10, 15, 18, 25).

The popular recommendations for evaluation of apnea (Table II) includes a detailed history (especially of the time surrounding the event) and physical examination. Initial diagnostic procedures should include a chest x-ray film, electrocardiogram, complete blood count, blood glucose, and end tidal carbon dioxide (17). A summary of the differential diagnosis is included in Table 1.

If the diagnosis is not clear, a further evaluative method used in most research hospitals and at Providence Hospital in Anchorage is thoracic impedance. This is the detection of changes in small electrical activity generated by muscle activity. Electrodes are placed on opposite sides of the chest and connected to a continuous trend recorder. This method has been duly criticized because it often fails to recognize obstructive apnea (21, 30, 39). The current use of nasal thermistors to measure expired air flow and nasal catheters to determine percent of carbon dioxide in expired gases have helped distinguish and characterize apnea. Many infants will have normal physical and laboratory findings, so further diagnostic tests may be required to determine the etiology for apnea. These infants may need body fluid cultures, blood gas determination while awake and asleep, echo-

cardiography, endoscopy, computerized cranial tomography, esophageal pH and polygraphic monitoring. They should have most of the procedures done in a medical center experienced in administering and interpreting the tests. A few infants with obstructive and/or severe recurrent apnea will need comprehensive evaluation in a sleep research laboratory.

Home Monitoring

There is much emotional and some controversial data to support home monitoring for several groups of infants (29). As we have discussed earlier, detection of infants with a predisposition for developing life-threatening or subsequent sudden death is difficult. It is not surprising that prevention of these episodes of SIDS is not yet possible. Therefore, our objective is to prevent the mortality and morbidity associated with recurrent infant apnea and SIDS (26).

The use of a home monitor should be guided by the interpretation of appropriate diagnostic tests and the family must be supported with adequate cardio-pulmonary resuscitation training, monitor servicing and 24 hour medical assistance.

While home monitoring has not prevented all subsequent deaths, many medical centers are currently recommending such monitoring for special high risk infants (22). The high risk infant may come from one of five groups. The first group consists of infants who have had one or more episodes of apnea. They have a mortality rate of up to 44% (26). The preterm infant with recurrent idiopathic apnea discharged from an intensive care unit constitutes an ever enlarging risk group (24). Siblings of SIDS victims appear to have a fourfold greater risk of developing fatal apnea (25, 43).

The "near miss" for SIDS infant is an enigma. He is the infant which, after excluding infections, seizures, anemia, etc., has experienced an episode of near-death. In the past these infants were not thought to have any anatomic, physiologic or histiologic differences from normal babies. Recent work in the subject has contradicted this impression. Infants born to drug dependent mothers also appear to be at special risk.

The last group of infants which may use home monitoring does not need monitoring. These are healthy, asymptomatic babies with highly anxious parents. If parental anxiety cannot be relieved, monitor use may release them from their daily vigil. Monitoring an infant for this reason should be exceedingly rare.

At Providence Hospital, like many medical centers in the country, we are using impedance home monitoring. Newer models have microprocessors which increase it's reliability. The parents are taught to trouble shoot monitor problems and their acceptance of the device has been quite good (only two of thirty parents have elected to discontinue use of the monitor at home). We encourage parents to contact their primary physician or village health aide at the first opportunity after discharge. Parents are further encouraged to contact their primary physician at the sign of any equipment or infant problems related to the cardiorespiratory system. Follow up care of these infants has been very successful.

Summary

Infant apnea is a symptom of many different disease states. A full evaluation of apnea is necessary before a diagnosis of idiopathic or "near miss" SIDS is accepted. There will be some infants with apnea who have no demonstrable etiology.

Infant apnea can be considered central (lack of diaphragmatic movement), obstructive (continued respiratory movements without airflow), or mixed (a combination of the above). Thoughtful consideration must be used in the evaluation of these infants. Many evaluative procedures will distinguish the types of apnea, such as the chest polysomnogram, so treatment plans may be appropriately applied.

Since our knowledge of the mechanism(s) of infant apnea is limited, much interest has been directed toward prevention of significant apneic episodes. To this end, the use of home monitoring has been supported by medical researchers and the lay public.

The proliferation of home monitors can go uncontrolled. This may promote family anxiety, miss remedial causes of apnea, make data unavailable for continuing research, and ineffectively use the primary care physicians' time.

An integrated approach to the evaluation of infant apnea is being accomplished in many areas in the country. These centers draw from the experience and commitment of primary physicians, specialists in neurology, cardiology, radiology, neonatology, pulmonology, surgery, pathology, and developmental therapy.

Finally we must not be cajoled into responding to the sometimes overly enthusiastic lay press. Continuing medical research is a slow painful process requiring patience.

TABLE I

DIFFERENTIAL DIAGNOSIS OF APNEA IN INFANCY

CORONARY ISCHEMIA: Embolism, Kawasaki Syndrome, Dissecting Aneurysm
CARDIAC ANOMALIES: Atrial Myxoma, Endocardial Fibroelastosis, Myocaridal Fibrosis, Myocarditis
ARRHYTHMIAS: Calcium, Potassium, Conduction System

CONGESTIVE HEART FAILURE: Congenital Heart Disease
CNS DISORDERS: Trauma, Hemorrage, Hydrocephalus, Metabolic Encephalopathy, Infections, Metabolic Abnormalities
SEIZURE DISORDERS
SIGNIFICANT ANEMIA: Hqb 7gm/dl
GASTRO-ESOPHAGEAL REFLUX
CHILD ABUSE
SEPSIS: Pneumonia, Bronchiolitis, Epiglottitis, Croup
TOXIC INGESTIONS: Barbiturates, Acetyl Salicylic Acid

TABLE II

SUGGESTIONS FOR APNEA WORKUP

DETAILED HISTORY AND PHYSICAL
CHEST X-RAY
ELECTROCARDIOGRAM: Echocardiogram* Electroencephalogram*, Echoencephalogram*
COMPLETE BLOOD COUNT
ELECTROLYTES: Sodium, Potassium, Calcium, Magnesium
BLOOD GLUCOSE
BLOOD UREA NITROGEN
BLOOD CULTURE*, LUMBAR PUNCTURE, URINE CULTURE
END TIDAL CARBON DIOXIDE
POLYSOMNOGRAM

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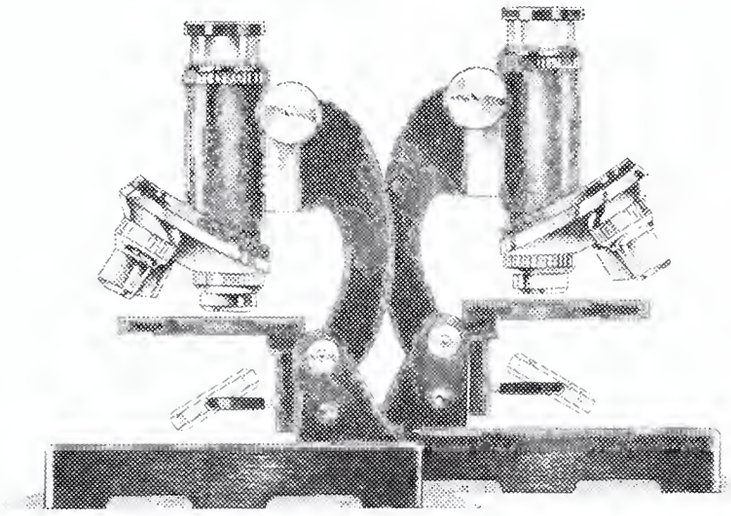

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CIRCUMPOLAR HEALTH, 1984:

AN ALASKAN PERSPECTIVE

Theodore A. Mala, MD, MPH:

Abstract

Researchers from all over the world gathered in Anchorage, Alaska in May of 1984 to meet one another and exchange scientific data on circumpolar health. This paper presents an overview of a selected number of circumpolar health topics of special interest to Alaskans, as well as some implications for the future. The numerical citations include conference related papers as well as other sources of information on the subject.

Introduction

After 25 years of statehood, Alaska still holds true to its claim of being "The Last Frontier". In fact, the northern regions of the world, especially the arctic environments, certainly reflect that lifestyle.

Our village ways of life have been protected by extremes of temperature and relative inaccessibility. As compared to other Native American settlements, we have been spared many of the frustrations of being too close to major populations. Alaska and its outlying regions have been perceived as undesirable or uninhabitable in the past. Yet, with close to two thousand new settlers arriving each month, Alaska's image is quickly changing. Driven by depressed economy and a new hope for the future, individuals are now looking for the fulfillment of their dreams in America's "Last Frontier".

Alaska's population base has now reached and exceeded a half million people; most of which reside in Anchorage. From there, they search for jobs in our rural "Bush" areas.

This northern trend of migration is not solely limited to Alaska's north. The World Health Organization (WHO) reports that there are approximately 21 million people living in circumpolar regions. Unfortunately, health services are poorly distributed around the world with the best services being centralized in the urban areas. Of the 21 million circumpolar residents, only one million live in the real arctic.

Noted arctic environmentalist, Dr. Louis Rey, has often cautioned the world community on the fragility of the arctic (2). We are reminded that even minor changes to the ecological systems now in place would take a lifetime or more to repair. Yet, the current rates of development in Alaska and other circumpolar areas are positive indicators that the trend for change will accelerate and double itself in a relatively short period of time.

Can the arctic sustain unprecedented "boom" development without unalterable damage to its delicately balance environment? What effects will this have on its indigenous residents as well? Several steps have been taken to begin to assess the impact.

Most recently the Arctic Science Bill has been signed by the President. It will create an Arctic Science Policy Council and an Arctic Research Commission to create and implement a comprehensive policy on Arctic research (3). The American Public Health Association just approved the National Arctic Health Science Policy as its own position on health research in Alaska. Until now, there has been no U.S. position or coordinated effort to conduct necessary scientific research in the Arctic (4).

Clearly, the need for research in all polar areas has been established. Yet, the most common ques-

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tion arctic health scientists are asked today is: "What is Circumpolar Health?"

Some seventeen years ago, that question came up at the University of Alaska in Fairbanks. Scientists from the northern nations were conducting research on topics of interest in their areas of expertise in countries and decided that they would come together every three years to compare data as well as to establish joint research ventures. And so, the Circumpolar Health Conference was born. The next one will be held in Umea, Sweden in 1987.

Circumpolar health refers to the unique problems of living and working in arctic and subarctic conditions. Although, there are relatively few "circumpolar pathologies" per se, there are distinct and complex problems with the provision of services to small villages widely scattered over a vast territory of land. Target groups include the indigeous Native, the long time settler and the relative newcomer. Adequate preparation and adaptation to a harsh environment affects the health status of an individual. The term "adaptation" is used in the biological, physiological and psychological senses.

Circumpolar health begins with the past and looks at conditions of "pre-contact" living (before exposure to other cultures). Today frozen bodies are being unearthed and examined all over the northern world. Eight such perfectly mummified 500 year old bodies were found in Greenland along with other recent finds in Barrow, Alaska.

The pre-contact autopsies results indicate injuries, malnutrition and famine. Intestinal parasites were common along with eye disorders, arthritis and other crippling diseases (5,6). No evidence of cancer has been demonstrated. We know that TB and venereal diseases were brought by the explorers and fur traders to Alaska in the 18th century and became a serious problem for the Natives and the employees of the Russian American Company (7,8).

Most recently, lung studies have been done in Alaska on "Echinococcus multilocularis" which is the alveolar hydatid disease resulting from infection of man by the larval stage of the cestode parasite found naturally in foxes, rodents, and dogs. In the U.S., almost all of the diagnosed cases have been in Eskimos in western Alaska. The greatest prevalence reported is in eastern Siberia (9).

In the realm of fitness, Canadian studies at Igloolik ten years ago as compared to today show that as Natives adopt "western" lifestyles their maximum oxygen uptake has decreased to the level of the white population (10). Axelsson showed that actual lung size decreased by around 500 ml in urban environments as compared to rural Icelandic areas (11). Even Eskimo stature *decreased* around 2 cm over the past decade, presumably due to the use of snow machines in causing spinal compression, not to mention frostbite and vibration level injuries (10,12).

The most discussed infectious disease today is that of acute Hepatitis B virus infection. The Yupik Eskimos of southwest Alaska have the highest U.S. prevalence rate. The risk of becoming a carrier is inversely related to age at the time of infection (13). Therefore, it is essential that the Hepatitis B vaccine now available through the Indian Health Service Hospitals and Clinics be administered.

Ninety-seven new cases of tuberculosis were reported for the whole state of Alaska in 1982. Of those cases, 64 were from Southcentral regions and 21 from Northern regions from a total estimated 1982 Alaska population of 464,047 (14). Compared to an annual Canadian Inuit estimated risk of infection rate of 25% per annum, tuberculosis in Alaska can be said to be fairly well controlled under rigid state and federal health surveillance systems (15).

Numerous programs in dental education are in effect worldwide. The principal culprit in the early years of life is the "baby bottle" at bedtime feedings or late weaning. Program strategies stress "oral bacteria + sugar = acid. Acid dissolves tooth minerals". Innovative approaches utilizing rural community planning, such as the Ruralcap Alaskan Dental Head Start Program, have been extremely successful in affecting behavioral changes in the Yukon-Kuskokwim Delta Native population (16).

An area of special interest to many is cold environment studies. Researchers are looking at the effects of freezing and burn injuries in lowering part of a person's immune defenses (17). Poor lung function has been recorded by Canadians researching Eskimo populations and relating the loss of function to cold induced pulmonary damage. The traditionally long hunting trips (many of which are being abandoned today) brought with them an enlargement of the pulmonary arteries as well as electrocardiographic changes such as right bundle branch blocks (18,19). Lung changes are also attributed to substantial increases in cigarette consumption with a more sedate lifestyle.

In frostbite patients, thermal biofeedback training is being extensively tested with promising results. Drs. Kappes and Mills have found effective increases in blood circulation and the subsequent preservation of injured tissues (20). The role of the clinical psychologist is becoming increasingly recognized in the hospital setting for the follow up counseling of a number of conditions such as limb loss, phantom pain patient compliance and behavior modification techniques.

Today in Alaska, cancer is widely discussed and has resulted in our state legislature funding a "Cancer Research and Treatment Center" feasibility study. The rationale was based on the fact that there are between 600 and 800 new cases found each year in Alaska, 200 being from the Northern regions. Lung cancer incidence rate is twice that

of the rest of the nation. Native cancer rates are quickly catching up to non-Native rates.

In Natives, renal cancer is three times higher than national rates. In Alaskan Eskimos and Aleuts, cancer of the nose and throat is fifteen times and cancer of the cervix is twice as high as U.S. national averages (21). Salivary gland carcinomas are found to occur in the Eskimo populations of Greenland, Northern Canada and Alaska at a higher rate than in the rest of the world. In fact, the malignant lymphoepithelial lesion or "Eskimoma" is found only in Eskimos and rarely anywhere else in the world (22).

Alcohol consumption and abuse continues to be the leading cause of accidental injuries and deaths in Alaska. The nationally cited baseline study of Alaskan Alcohol and Drug Abuse was completed in 1982 by the University of Alaska, Anchorage (23, 24). Within circumpolar regions, substance abuse has been traditionally assumed to be greater in isolated rural communities. The results of this study contradict the premise indicating approximately equal urban and rural usage rates (25). Fetal Alcohol Syndrome is being monitored and the data widely published (26).

Suicide seems to be mostly linked with alcohol and substance abuse. Some northern regions have rates up to seven times higher than U.S. national averages (27). In other areas, such as northern Canada, some Eskimo community rates are also seven times greater than Canadian national rates (28). Suicide "hot lines" and community awareness seem to be having a positive effect on reducing attempts at suicide.

Scientists have been looking at the effects of weather on the physiology of the body. Circumpolar regions have periods of extended darkness and periods of extended light (29). Kotzebue studies indicate changes in circadian rhythm resulting in a high incidence of non-pregnancy amenorrhea related to the pineal gland which releases an antigonadotrophic hormone in the absence of light stimulation to the eyes (30). Although pregnancy rates between the two periods did not differ, it was suspected that impregnation might decrease in the winter. Comparative studies are continuing in this subject.

The backbone of Alaskan rural health delivery is the community health aide. This village member is trained for a number of weeks by the Indian Health Service to assist a practitioner in providing basic primary health care in a remote area that cannot economically justify a resident professional health care practitioner (31). Such a program also exists in Canada where it is also an essential link to established hospitals and medical service units (32). Often the only link between the health aide and the health practitioner is a radio (33).

Extensive medical emergency plans have been written for the 586,000 square miles of our state which encompasses two cities and 256 isolated villages and towns (34).

The role of diet never ceases to be of interest in our health conscious society. Native foods are continually studied, especially since there has never been one case of cancer reported in individuals who consumed a totally traditional diet (35,36). Although there is a trend toward consuming more pre-packaged foods, the high cost of importing such items still makes subsistence hunting and fishing a necessity.

Much mineral and petroleum exploration and development continues to take place in the world's last frontiers. Limited studies measuring working conditions in arctic regions are being undertaken globally (37,38,39). The urgency at which nations competing for natural resources is not conducive to long range planning and studying. Often occupational health concerns are put aside for the cause of "progress and development".

I have mentioned but a few of the many concerns voiced at the 6th International Circumpolar Conference by representatives of all the circumpolar nations. Much more work must be done in many other areas of related concerns.

The University of Alaska Foundation is working to ask people throughout our state to "help create a framework for a coordinated research program on the special challenges of the high latitudes"(4). Their goal is to reach $500,000, half of which they have already raised in donations and pledges.

The National Arctic Health Science Policy recommends the estabishment of "arctic desks" at a number of federal health agencies in Washington, D.C. It advocates a computerized directory of arctic scientists, health researchers and their work around the world (41).

Today more than ever, circumpolar nations are developing their arctic regions. In the Soviet Arctic alone, there is massive industrialization utilizing the 4 million people that live in the area. Worldwide arctic gas and oil exploration is taking place. New marine and land transportation systems are being developed, not to mention the consolidation of northern defense systems. It is estimated that 20-25 thousand scientists work on arctic research in the Soviet Arctic with no less than 170 scientific institutes linked to gas and oil exploration alone (42).

The study of circumpolar health related topics has come of age. Its national and global applications cannot but improve the quality of life for all northern residents. Schools of public health sciences would do well to include such study within their curricula. The more individuals know about this fragile environment we call the arctic, the greater the chance it will be better understood and respected.

Circumpolar health is the key to that which gives the arctic life, its people and their unique cultures

and traditions. Working together as a worldwide circumpolar community, we can make the dream become a reality.

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* Signifies an unpublished paper presented at the Sixth International Circumpolar Health Conference, May 13-18, 1984, Anchorage, Alaska.

INAUGURAL ADDRESS OF THE PRESIDENT

American Medical Association Annual Meeting

June 1984

My theme for you is, should we learn to say, "No". Every now and then on the Tonight Show, Johnny Carson plays a game called, "I have the answer. What is the question?" Ed McMahon feeds him an answer; Johnny quips the question.

I have an answer for you. The answer is, "In a ten year period of time, at least one million two hundred ten thousand people in the United States will have died. Over one million one hundred fifty thousand will have their lives shortened. Millions more will have been denied useful, productive and more comfortable lives because medical care had been denied them."

When Johnny does it, he is more irreverent than I will be when I say, "What is the Question?" The question is, "What happened when American doctors learned to say, 'no' to their patients?"

For over two thousand years, since the time of Hammurabi, doctors of medicine have dedicated themselves to a code of ethics, and although changing times and mores have produced a different set of words and phrases, the underlying bent of our commitment has been to help the sick, to do no harm, to educate the novice and to share medical knowledge with fellow physicians. The code of our medical bond is well summed up by two statements: The World Medical Association in 1948 said, "The health and welfare of patients shall be the first consideration, not allowing economics, politics, race or religion, or any other circumstance to take preference." A statement of the American Medical Association's Judicial Council says that while physicians should be conscious of cost, and not provide or prescribe unnecessary services, social policy expects that concern for the care of the patient will be the physician's first consideration."

Back to the question, the one about what happened when American doctors learned to say no. The answer I gave you is not a fanciful one. It is culled from data contained in a report by Henry Aaron and William Schwartz writing for the Brookings Institution in a book entitled, "The Painful Prescription." The report is a very thorough, careful and objective evaluation of the system of medical care in the United Kingdom as compared to that in the United States. Their data indicate quite clearly that were the standards for treatment now utilized in the United Kingdom applied to the people in the States, there would be no fewer then 37,000 excess deaths a year from renal disease, 48,000 from cancer, 40,000 from coronary disease. About 138,000 people would be denied the extension of a useful productive and comfortable life. And that is just some of it.

Our professional ethic says that we are a collegial brother and sisterhood in which our interests are mutually intertwined. A business ethic says, get your share, drive the other fellow to the wall. Professional ethic says that we shall establish standards of what constitutes moral and professional conduct; that we will care for people, regardless of the circumstances, with compassion and concern.

The business ethic was well summed up for me by Uwe Reinhardt, professor of economics at Princeton. Discussing the question, how does medicine and how do hospitals cope with a transformation into an industrial complex, Dr. Reinhardt answered that in Economics I. He poses the question to his students, "What is a business ethic?" His answer, "A business ethic is to maximize the return on investment to your shareholders without breaking the law." He further advises his students that when they are in business they should consider themselves in a race. In that situation it might be nice social policy to pick up a candy wrapper on the track during a hundred yard dash, but you'd not be likely to win many races. In business you do not pick up social trash along the way, not if you intend to win.

Roger Evans in a special communication published in JAMA, April 1983, entitled, "Health Care Technology and the Inevitability of Resource Allocation and Rationing Decisions," made it very clear that there is an inherent conflict between the rationing of medical care and resource allocation and the oath of Hippocrates. He says that if the individual responsible for the allocation of resources is the individual physician, then that physician must, perforce, give up responsibility for the individual person. Further, Dr. Evans points out that recent reports indicate that competition can have a negative impact on the quality of care patients receive. He also notes that when the public is exposed to decisions contrary to the interests of the person involved, decisions based on a mix of both medical and social criteria differentially valuing human life, the public will become increasingly irritated and resentful.

Another example, perhaps closer to this House of Delegates, the review of the Health Policy Agenda, showed that several principles clearly speak to the question of professional ethics. The report says primary

responsibility for the establishment and implementation of professional standards should rest with the health care profession, and institutions and health care practitioners should function according to codes of ethics that take into account traditions of the profession, moral values of society, and developments in science and medicine. Codes of ethics should be an addition to the requirements of the law and the dictates of personal conscience.

How do we resolve this principle with a possible dilemma to be faced by physicians when, because of DRG reimbursement or other resources limits, they are pressed to either discharge patients from the hospital prematurely or not admit some patients to a hospital at all? Clearly, in the adherence to principles of our profession, physicians should not accept a dictate that they will act other than in the best interest of the patients under their care.

Have we addressed the question of the ethics involved when physicians engaged in basic scientific research, in the employ of industry, accept the proscription to keep their research secret — not to share the discovery — even though that may mean that a major advance in the diagnosis or treatment of disease may be denied the general public for years, if not forever?

Have we addressed the question of whether or not our teaching institutions ought to accept research grants from industry when restrictions on the use of that research come along with the grant?

Should we not loudly and clearly be encouraging our local medical associations to seek the means whereby they can review fee practices of some of their members, rather than withdrawing from the arena?

Are we willing to pledge substantial portions of our assets to stand behind those scientific societies that are willing to establish standards of practice that will protect the public from the incompetent practitioner?

It is my judgment that if we proceed in a deliberate and conscientious fashion, committing ourselves to an ethical standard for medical practice which is intended to serve our primary goal and protect the interest of individual patients; if we do not succumb to the notion that the individual doctor will become the agent to decrease access or availability or diminish quality in the cause of saving hospitals; if we state clearly that we will not surrender to attorneys or courts the practice of good medicine; if we pledge not to leave to the courts decisions best made by patients and their families and physicians; if we can begin with our own behavior and commitment to provide appropriate role models for medical students and physicians in training; if we seriously address the question of the conflicts between the needs of patients of corporate enterprise both in the provision of care and the process of research — then we will have taken a long step along the path which leads to real progress in medicine instead of a retreat into mediocrity.

The public has repeatedly told us through opinion polls that they do want someone to establish, monitor and maintain standards for its protection. Likewise public voices repeatedly tell us that the people to whom they look to provide that assurance for them belong to associations of medical doctors. We have a need to believe in ourselves because the public has a need to believe in us.

And in these times of rapidly expanding technology people have an increased need to be treated as individuals — to be personally touched. Can we not show them we care — slow down a little — and just as from time to time we say to those near and dear to us "I love you," now and then pause and say to our patients, "Hey, I care!"

Joseph F. Boyle, M.D.
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POLICY FOR THE FUTURE

Alaskans face numerous challanges and opportunities to protect the public's health as industry continues to develop in Alaska. Exciting opportunities exist for future resources in the areas of hard rock mining, coal, asbestos, oil and gas, and the timber industry. To that impressive list we can certainly add the possibility of major agricultural development, and growth and expansion of Alaska's seafood industry. Opportunities to create more jobs, to decrease our tremendous seasonal fluctuations in employment, and to reap the benefits of improved infrastructures will be welcomed by all Alaskans; *provided* they are achieved in a manner that protects the environment, is safe both to workers and surrounding communities, and is economically feasible.

Future industrial development will bring many impacts and changes to Alaska. Experience clearly has demonstrated that many of the proposed industries have, in the past, been associated with serious adverse impacts on workers and surrounding communities. We must plan carefully to meet the challenges which face us in order to protect Alaska's most valuable resource, its people, as industrial development proceeds.

Alaskans were able to benefit immensely from the Alaska Petrochemical industry feasibility study conducted over an eighteen month period in 1981 by the Dow Shell Group and by a review of the study by an interagency technical team made up of State agency representatives. We have much to gain by considering carefully the findings. Highlighted by the Dow Shell Group feasibility study review was the absence of a generic process within the State of Alaska to review future major industrial development projects, and the tremendously limited expertise available in Alaska to evaluate, investigate, and assess environmental and occupational health risks.

Major problems caused by hazardous materials have been making the headlines. Recently, we have had episodes such as

— Shipment of PCBs by truck to Homer and subsequently by barge to Seattle. The shipment leaked on the barge and caused widespread consternation among EPA officials in Seattle.

— Workers were exposed to PCBs at a White Alice site in Aniak.

— PCBs were found to have contaminated yellow newsprint ink in Anchorage and Fairbanks.

— Workers at the Barrow utilidor project and in Ketchikan were exposed to Pentachlorophenols.

— Workers at a telecommunications site at Clear Airforce Base were exposed to microwaves.

— Additional problems have included exposure of hospital employees to ethylene oxide forcing an emergency closure of Valley Hospital in Palmer; the occurance of hepatitis A among sewage treatment workers in Anchorage and Juneau; ongoing problems with crab asthma among crab processors; and carbon monoxide poisoning among fisherman, construction workers and pilots.

Numerous government agencies have been widely involved in responding to these problems. Agency involvement has included the Alaska Department of Environmental Conservation and Department of Labor, the EPA, OSHA, and the National Institute of Occupational Safety and Health. But where was the Department of Health and Social Services?

There currently exists no program within the Department of Health and Social Services specifically directed at the areas of occupational or environmental health. Occupational Safety and Health was removed in 1971 and environmental health was removed in 1980. At a time when there is increasing recognition of the growing onslaught of environmental and occupational health from the mainstream of medicine and public health. Prevention is a hallmark of occupational health. A myriad of job-related diseases afflict workers which are manmade, preventable, and eradicatable.

Historically, epidemiologic investigations have played a central role in controlling occupational and environmental exposures. The search for such occupational hazards has unearthed more substances known to cause cancer in humans than any other method. Unfortunately, occupational health and environmental health have, until recently, received much less attention and support than traditional areas of epidemic control of infectious diseases.

While most state agencies have some involvement with environmental health, occupational health is the lead responsibility of the state health agency in only eleven states. Although state health agencies all utilize epidemiologic services,

epidemiology is listed primarily as a supportive personal health service related only to maternal and child health, communicable, or less frequently chronic disease control activities. Numerous states are beginning to reassess the epidemiologic basis of environmental and occupational health policy. Many states are beginning to rely heavily on epidemiologic methods to contain growing problems of environmental and occupational hazards. Several states have changed significantly the direction of their epidemiology programs and, while not significantly diminishing the role in communicable disease control, have increasingly shifted their resposibilities to relate to the environment and occupational health. At this time few such activities are occurring in the Department of Health in Alaska.

Although these very problems were identified in 1981 during the Dow Shell Group Petrochemical feasibility study review, only limited steps have been taken to improve the situation. We still have a severe limitation of these public health professionals. The State has but one medical epidemiologist. No other professional staff exist in the Department of Health and Social Services to provide public health expertise in these important areas. What then are the results of the absence of public health expertise?

Numerous contaminations of the environment and of workers have occurred in Alaska and have served to underscore the fact that serious occupational and environmental problems exist in Alaska today and are not merely borrowed as sensationalistic examples from national experience.

The discovery that workers were inappropriately using pentachlorophenols (PCPs) in the Barrow utilidor project led to considerable delay and expense for the contractor. Adequate information from environmental sampling and on site industrial hygiene inspection ultimately became available to allow some reassurance to the workers exposed and to the community. The use of PCPs suffered harmful effects.

Shortly thereafter, PCPs were used in Ketchikan to spray a roof under construction. Strong winds spread the chemical to nearby buildings and to a residential area including a library. Widespread illness occurred but no health assessment of exposed individuals was conducted.

For decades a syndrome has been known to exist among workers who process crab; the disease is known as crab asthma. Although a preliminary pilot study was done two years ago by the National Institute of Occupational Safety and Health which documented the existence of this occupationally caused disease, no further work has occurred, no further studies are being planned at this time, the cause and cure remain a mystery, and we don't know how to prevent the disease.

Recently, workers at a telecommunications site at Clear Air Force Base were exposed to high doses of microwave radiation. Although numerous other agencies were involved, the Department of Health played no role in the investigation of the incident or in the assessment of potential health effects among the workers.

The health department can and should play a vital role in these situations as an important member of a cooperative interagency investigation. Particular expertise brought by public health professionals can complement the expertise provided by industrial hygienists, environmental engineers, and others. Medical epidemiologists trained to perform health hazard investigations can evaluate health effects.

— by arranging for medical evaluations, including appropriate medical histories, physical examinations, and laboratory tests,

— by consulting with exposed individual's personal physicians,

— by interpreting tests results and helping to arrange for appropriate tests when necessary.

Of equal importance is the opportunity to apply knowledge gained during the investigations to develop control measures aimed at preventing future similar occurrences.

In 1978 the U.S. Air Force abandoned its Aniak White Alice Communications site. The Kuspuk School District expanded and converted the buildings into a vocational education center. In July 1983 approximately 350 gallons of PCBs were discovered on site, raising numerous concerns about potential health risks to workers, residents, and school children. Epidemiologic investigation was initiated to assess health risks to Aniak residents.

During the epidemiologic investigation in September 1983, we inspected the White Alice site; and interviewed, examined, and obtained blood specimens from several workmen who were involved in gutting the communications building in 1979-1980. Four of these individuals worked 8-10 hours per day, six days a week for approximately one month. In order to lighten the power transformers, workers attempted to drain the transformer oil that consisted of PCBs. Plugs were removed and the oil was siphoned by mouth. Because the material was very thick and difficult to siphon, at least one transformer was tipped over; insulating fluid drained onto the floor. During these activities, a major spill of antifreeze occurred when workers cut through interior pipes. Antifreeze spread across the floor of the building, reaching a depth of 3-4 inches, and covering the fluid which had leaked from the power transformer. No special work clothes were worn. Clothing became impregnated with antifreeze by the end of the work day. Employees ate lunch at the site; hand washing facilities were not available. Employees reported that

they were unaware that oils, antifreeze, or other materials at the site might be hazardous.

Blood specimens obtained in September 1983, from several workmen who were among the most heavily exposed individuals showed levels of PCBs within the expected range for the population. There was no evidence based on these samples that exposure to PCBs resulted in absorption of PCBs or elevated body burdens. Medical histories and physical examinations failed to elicit acute medical problems or chronic medical problems which could be related to or associated with exposure to PCBs or other chemicals as a result of activities at the White Alice site. Based on results of the epidemiologic investigation, individuals were reassured that no future serious medical problems are likely to result from their activities at the White Alice site.

The tremendous amount of discarded chemical and metal debris strewn over several acres of land provided a safety hazard to children and students. The physical dangers from the dump are far greater than any human health risks from PCBs.

Numerous opportunities exist in Alaska to incorporate available knowledge which will prevent serious short-term and long-term problems to workers and community residents. The implementation of a generic review process within the State to assess health impacts of major industrial projects would identify areas of concern so that solutions can be incorporated into industrial design and preventive health programs. In order to match benefits with risks, there is much support for the creation of an indemnity or a combination to insure comprehensive and full compensation for all risks and adverse effects to Alaskan workers and residents from major industrial development projects. Resolutions in support of this concept have been passed by the Alaska State Medical Association and by the Alaska Public Health Association.

A comprehensive program of surveillance and reporting of diseases that are known or suspected to be due to occupational or environmental toxic exposures should be instituted and can form the fundamental data base to monitor and detect occupational health risks.

Evidence that some of these issues are being successfully addressed is before us today. The worker right-to-know legislation will stand the test of time and will be favorably viewed by both labor and business. Recently, a few positive steps have been taken by the Department of Health and Social Services to meet some of the needs to address problems caused by hazardous materials. The Department has supported the Epidemiology Office in investigating incidents of exposure to hazardous materials. The Epidemiology Office recently applied to the National Institute of Occupational Safety and Health for a grant to develop expertise and capabilities to perform health hazard evaluations. Recently disease reporting regulations were revised and now require physicians and other health care providers to report diseases which may arise as a result of a worker's occupation, or from environmental exposure to toxic or hazardous material.

We need to demand more from the Department of Health and Social Services — we must demand that the Department of Social and Health Services meet its Statutory responsibilities to define, report, and control diseases of public health significance, especially in the areas of occupational and environmental health. We need to establish appropriate public health expertise to respond to identified emergencies; we need to establish public health expertise to identify hazardous materials and to prevent exposure of workers and communities; we need to establish and make available and accessible public health expertise to assist industry, workers, government agencies and the legislature to develop sound policies which will protect the public's health as industrialization proceeds in the future.

Edna St. Vincent Milay, in her sonnet number 137, wrote, "Wisdom enough to teach us of our ills is daily spun, but there exists no loom to weave it into a fabric." The challenge now before Alaska is to develop policies pertaining to industrialization and public health that will create such a loom.

John Middaugh, M.D.
May 25, 1984

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Chronic studies in rats and monkeys have shown mild renal toxicity with papillary edema and necrosis. Renal papillary necrosis has rarely been shown in humans treated with *Motrin* Tablets.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue *Motrin* Tablets and the patient should have an ophthalmologic examination, including central visual fields and color vision testing.

Fluid retention and edema have been associated with *Motrin* Tablets; use with caution in patients with a history of cardiac decompensation or hypertension. In patients with renal impairment, reduced dosage may be necessary. Prospective studies of *Motrin* Tablets safety in patients with chronic renal failure have not been done.

Motrin Tablets can inhibit **platelet aggregation** and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and on anticoagulant therapy.

Patients should report signs or symptoms of **gastrointestinal ulceration** or bleeding, skin rash, weight gain, or edema.

Patients on prolonged **corticosteroid therapy** should have therapy tapered slowly when *Motrin* Tablets are added.

The antipyretic, anti-inflammatory activity of *Motrin* Tablets may mask inflammation and fever.

As with other nonsteroidal anti-inflammatory drugs, borderline elevations of liver tests may occur in up to 15% of patients. These abnormalities may progress, may remain essentially unchanged, or may be transient with continued therapy. Meaningful elevations of SGPT or SGOT (AST) occurred in controlled clinical trials in less than 1% of patients. Severe hepatic reactions, including jaundice and cases of fatal hepatitis, have been reported with ibuprofen as with other nonsteroidal anti-inflammatory drugs. If liver disease develops or if systemic manifestations occur (e.g. eosinophilia, rash, etc.), *Motrin* should be discontinued.

Drug interactions. *Aspirin*: used concomitantly may decrease *Motrin* blood levels.

Coumarin: bleeding has been reported in patients taking *Motrin* and coumarin.

Pregnancy and nursing mothers: *Motrin* should not be taken during pregnancy or by nursing mothers.

Adverse Reactions: The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal of which one or more occurred in 4% to 16% of the patients.

Incidence Greater than 1% (but less than 3%)—Probable Causal Relationship

Gastrointestinal: Nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness,* headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite; **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation; see PRECAUTIONS).

Incidence less than 1%—Probable Causal Relationship**

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma; **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit; **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations; **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with pre-existing significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria; **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence less than 1%—Causal Relationship Unknown**

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions; **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmias (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis; **Renal:** Renal papillary necrosis.

*Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

**Reactions are classified under *"Probable Causal Relationship (PCR)"* if there has been one positive rechallenge or if three or more cases occur which might be causally related. Reactions are classified under *"Causal Relationship Unknown"* if seven or more events have been reported but the criteria for PCR have not been met.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine so alkaline diuresis may be beneficial.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary.

Caution: Federal law prohibits dispensing without prescription.

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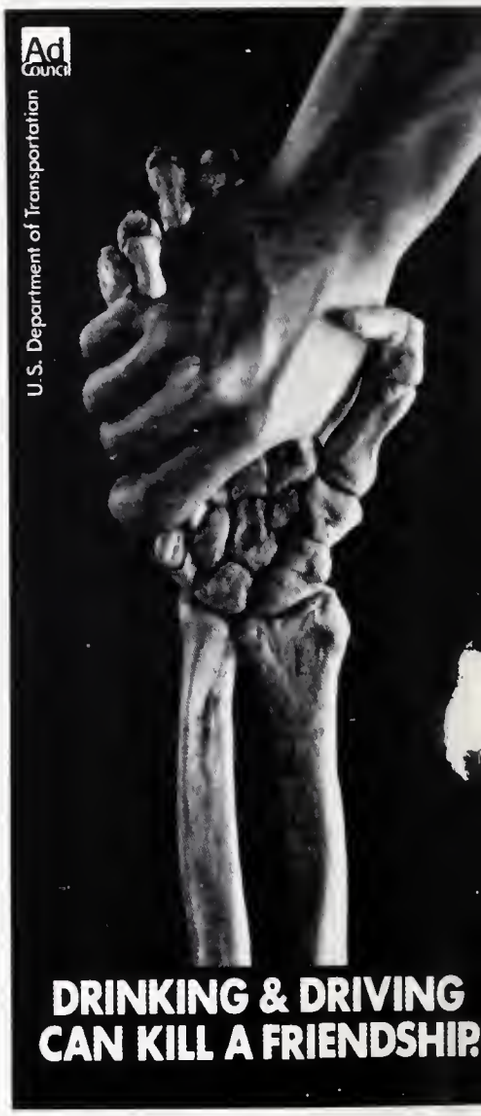
J-4791 August, 1984



Ad Council

SHIP'S SURGEONS AND NATURALISTS IN THE EARLY HISTORY OF ALASKA

PART 3: VOYAGES FOR EMPIRE AND THE NORTHWEST PASSAGE, 1814-1854

Dr. Scheffer and the Hawaii Connection (1814-17)

The name of Egor Antonovich Scheffer (or Georg Anton Scheffer, as he was baptized) is generally linked more closely with Hawaii than Alaska. Yet this political schemer began as a ship's surgeon in Alaskan waters and actually spent a longer time in Alaska than any doctor up to that time.

Born in Bavaria in 1779, Scheffer worked first as an apothecary and then passed his surgeon's examination at Wurzburg in 1804. Following a couple of years of clinical practice in Germany, he joined the Russian Imperial service, first in the army and later as surgeon for the Russian-American Company.

In 1813 he sailed as ship's surgeon in the *Skuvorov*, under Lt. M.P. Lazerev, bound for the Russian colonies in America. The captain and the surgeon soon clashed and by the time the ship reached New Archangel in November 1814, there was no love lost between them. Lazerev and Baranov, the Chief Manager of the colonies, also quarreled almost immediately over company business, and a state of tension existed throughtout the winter months at the capital. Finally, after a brief trip to the Pribilofs in the spring, Lazerev suddenly set sail for home in July 1815, leaving behind the official mail and his troublesome surgeon.

Scheffer and Baranov seemed to have gotten on well from the beginning, having more in common than simply their aversion for Lazerev. Soon the Chief Manager had hatched a scheme for using to advantage the services of his talented but wily new friend. The surgeon was to go on a mission to Hawaii, where Baranov had long sought better trade relations. His specific task was to seek compensation for the cargo of a Company vessel that had been wrecked and looted in January 1815 on the island of Kauai.

Thus, after spending nearly a year at Sitka, during which time he must have engaged in at least some medical activities, Scheffer sailed for Hawaii in October 1815 on the American ship *Isabella*. His overt role was that of naturalist, interested in the plant life of the islands, but Scheffer's true agenda was to win more favorable trade relations with King Kamehameha "by tact and diplomacy", while not forgetting the matter of the shipwreck.

Though initially Scheffer was received coldly, he soon ingratiated himself with the king by curing him of a cold and fever. Soon after the thankful monarch ordered a temple to be built in honor of physicians. On a more practical level, he also allowed a building on the island of Oahu to be used as a warehouse.

In May 1816, Scheffer moved his base to Oahu, where he felt a little more secure away from the watchful eye of the king. Receiving some reinforcements from Russian ships calling there, he finally sailed to Kauai in May 1816, to deal with the affair of the shipwreck. There he could not resist entering into an intrigue with King Kamehameha. Scheffer made several treaties with Kaumualii, promising protection in the name of the Russian Emperor, an armed ship, and an army of 500 men (which he would lead personally) to reconquer the islands held by King Kamehameha. In return, Kuamualii pledged allegiance to Russia and promised exclusive trade privileges, assistance in building forts and other buildings and, perhaps more to the point, a land grant of a beautiful valley in northern Kauai for Scheffer's personal estate. Scheffer set to work building a fort at Waimea and, by letters of credit on the Russian-American Company payable in New Archangel, purchased two American vessels to present to his patron.

On the island of Hawaii, however, King Kamehameha was complaining to Lt. Kotzebue, who stopped on November 1816, that a man who had come in the name of the Russian Tsar "to botanize" was now seeking to overthrow his kingdom. Kotzebue assured him that Scheffer spoke neither for the Company nor for the Tsar. Baranov, who by now had received word of the doctor's indiscretions, sent word on January 1817 that Scheffer had no right to make purchases on the Company's credit and that he should cease and desist from further political involvement. Scheffer ignored him, choosing rather to believe St. Petersburg would vindicate him.

In early 1817, Scheffer's world began to disintegrate. Relations with Kaumualii rapidly cooled, partly due to false rumors of war between the United States and Russia. With the assistance of some American sailors, Scheffer was forcibly removed from Waimea and his valley estate. He was allowed peaceably to board an American ship for whose captain he had once provided medical help, and took passage to Canton and thence to Europe, where he arrived in the summer of 1818 to plead his case before the Tsar.

Scheffer never returned to Alaska, where

Baranov might have made him most unwelcome, or Hawaii. He made a number of attempts to repair his fortunes in Russia, but ultimately the Tsar's displeasure with his schemes caused him to leave Russia and seek new opportunities in Brazil, where he died in 1836.

The Voyages of Kotzebue (1816-17, 1824-25)

Lt. Otto von Kotzebue left Kronstadt in July 1815, in command of the Russian brig *Rurik,* with the charge of exploring the Northwest passage from the western side. From Kamchatka the ship sailed in the summer of 1816 to Bering Strait, stopping at St. Lawrence Island before exploring what is now Kotzebue Sound. The *Rurik* then bore south for Unalaska, San Francisco, and finally Hawaii, where Kotzebue tried to patch up the Scheffer affair with King Kamehameha.

The following spring he headed north once more to Unalaska, but ran into immense storms and high seas in the North Pacific. By July the ship had reached St. Lawrence Island but there the Captain's ill health precluded further exploration and the *Rurik* turned its bow homeward.

The physician who advised the captain to return was Frederick Eschscholtz, M.D., who wrote in his personal account that Kotzebure was suffering spasms of the chest, fainting spells and even hemoptysis as a result of repeated exposure to the cold arctic air.

Eschscholtz was apparently university trained, though we know little else of his personal background. The official account of the Kotzebue expedition contained papers by him on a variety of topics, including rocks, butterflies, a new species of monkey, and the physiology of marine invertebrates, not to mention his medical account to be described later.

He seems to have been loved and respected by all, not least the captain himself, who named a major bay in southern Kotzebue Sound in his honor on the first voyage and a group of coral islands in the Pacific for him on the second voyage. An example of Kotzebue's affection for his physician is an incident that occurred in Unalaska in September 1816. The ship was ready to sail but delayed because Eschscholtz was collecting plants in the hills. Most skippers would have been furious to miss a tide or favorable wind (compare Bering and Steller at Kayak Island), but Kotzebue's journal entry expressed only relief when the errant botanist was found; "Our joy was boundless on the happy return of our amiable and skillful physician."

Eschscholtz is mentioned only sporadically in Kotzebue's narrative, the most significant occasion being the time when the doctor, while leading a shore party in Kotzebue Sound, discovered a high hill composed entirely of ice except for a covering of soil with grass and moss. In the exposed area where part of the hill had broken away, the sun had melted enough ice to expose a quantity of bones and teeth from a mammoth. This spot, in Eschscholtz Bay, was later called Elephant Point.

Eschscholtz has left a detailed account of the health of the crew of the *Rurik* during its long voyage around the world. This is the only such early record available from a ship exploring Alaskan waters. His purpose, as he states in the introduction, was to relate changes in the health of the crew to climate and other natural phenomena encountered on the voyage.

Eschscholtz had no explanation to offer as to why the crew was entirely healthy during the three and one half months' voyage from Chile to Kamchatka, despite the marked variations in weather. Once in the fog of the Bering Sea, however, the sailors developed epiglottic pain, horseness and cough. The doctor blamed the "unwholesome fog", though a more plausible explanation might be that new respiratory pathogens were picked up in Kamchatka immediately prior to their departure for the Alaskan coast. The symptoms improved while en route to Unalaska, then increased again when the ships headed south to San Francisco.

The following year bought new health problems as they sailed northward again. The heavy seas of the north Pacific caused a sailor to break his tibia and Eschscholtz had difficulty immobilizing it until Kotzebue,concerned by the man's severe pain, temporarily steered a different course to reduce the rolling of the ship. At Unalaska the crew developed diarrhea as a result of overindulging on fresh salmon. The men also ate large quantities of fresh cod, Eschscholtz noting that despite the many worms in the fish no one seemed to get sick. The Aleuts, he observed, ate the cod raw, but cut the flesh in very thin slices to avoid the worms.

The Aleuts of Unalaska suffered greatly from colds, cough and horseness. The Russian fox hunters (probably Creoles) were in addition afflicted with chronic joint pains locally thought to be syphilitic in nature. Eschscholtz was skeptical of the explanation, since he saw no typical syphilitic lesions among them.

As the ship moved north into the Bering Sea, coughs, colds, horseness and rheumatism again began to afflict the crew. One man spit blood, probably the result of a broken rib due to a fall from the yardarm.

Although Eschscholtz had several extended opportunities to observe Alaska Natives he makes very few references to their health, except for his comments on the Aleuts taken on as members of the crew. On the run from Unalaska to California in 1816, he describes typical miliaria in an Aleut who had probably had little previous opportunity to feel the direct rays of the sun. This one and a companion also developed "nervous fevers" from

their sun exposure. On the return voyage across the Pacific, the doctor was careful to arrange for the five susceptible Aleuts on board to be vaccinated against smallpox, using a cowpox preparation obtained from a physician in Cavite. Later two of these Aleuts developed measles but recovered.

At the end of the three year voyage, Eschscholtz was able to report that no contagions had developed on the ship, no nitric acid fumigations had been found necessary, and no sign of scurvy had been observed.

Kotzebue made a second round the world voyage in 1823-26, in the ship *Predpriatie*. Once more he selected Eschscholtz as his physician but in addition brought along a second naturalist, an astronomer and a mineralogist. The ship touched briefly at New Archangel in the fall of 1824, then returned there in February 1825 for a sojourn of 5 months. Little or nothing of medical interest occurred on this voyage and Eschscholtz is rarely mentioned.

The Search for the Northwest Passage

The search for a northern water route through the American continent to the Far East fascinated Europeans from the 16th century. Once Cook's third voyage had effectively ruled out such a passage in more temperate zones the attention of the seafaring countries, especially Great Britain, was focussed on a route above the Arctic Circle.

The three expeditions of John Franklin, Britian's most remembered Arctic explorer, were all dedicated to solving the problem of the northwest passage. The second of these deserves passing note in this paper because Franklin in 1826 did explore a substantial segment of the Arctic coast of Alaska. His devoted friend, fellow explorer and physician, Dr. John Richardson, accompanied him to the mouth of the Mackenzie River but then led a party eastward as Franklin turned westward. An important adjunct to this expedition was the voyage of the HMS *Blossom,* a schooner commanded by F.W. Beechey, who was to link up with Franklin on the north coast of Alaska. In the summer and fall of 1826 Beechey explored the Alaskan coast north of Bering Strait as far as Cape Beaufort about latitude 69° N. A barge from the *Blossom* penetrated all the way to Point Barrow, where its further progress was blocked by heavy ice. After wintering in Hawaii, the schooner came north again, this time exploring largely in Norton Sound and the southern shore of the Seward Peninsula.

Although it was the custom for Royal Navy vessels to carry a surgeon, none is mentioned in Beechey's narrative despite the fact that the book abounds in medical observations and other ethnographic material relating to the Natives.

The third Franklin expedition ended in utter disaster in the Canadian central arctic in the mid 1840's. Once the full extent of the tragedy was recognized, numerous official and unofficial expeditions began an extensive search of the arctic regions of North America. No fewer than eight ships searched for or provided support to the other expeditions in the vicinity of Alaska. The most important of these was the *Plover,* which spent six winters in the western Arctic (from 1848 to 1854) under the command of T.E.L. Moore and later Rochfort Maguire. The *Herald,* under Henry Kellett, also arrived in 1848 and spent several seasons in Alaska, after going south to resupply in the winter. Beginning in 1850, Captain Richard Collinson commanded the *Enterprise* and Robert McClure, the *Investigator,* both of which passed by Alaska en route to the western Canadian Arctic. Although most or all of these ships, plus the four Royal Navy supply ships, must have carried surgeons, they left few traces. With two important exceptions, none left an indepentent published account.

Alexander Armstrong, M.D., was the surgeon aboard McClure's ship the *Investigator,* which passed the northern coast of Alaska in 1850 en route to the fame of ultimate discovery of the fabled Northwest Passage. Armstrong was an opinionated, sharp tongued critic of his captain who published his own version of the famous voyage, but his story belongs to a hisory of Canada, not Alaska.

Dr. John Simpson is the one individual who stands out from all the other surgeons of the Franklin Search. He was the medical officer on board the *Plover* throughout its long stay in the Arctic and with his scientific training, became more than anyone up to that time an expert on the customs and culture of the northern Alaska Eskimo. His principal contribution was entitled "Observations on the Western Eskimo and the Country they Inhabit", based on a stay of two winters at Point Barrow from 1852-1854. Simpson was a careful and objective observer whose account is invaluable today for its description of these people prior to significant European contact.

Discussion and Conclusions

Nearly all ships' medical officers were naval or military and therefore trained primarily as surgeons. "Surgeon" as title in the 18th and early 19th centuries, however, had quite a different meaning from that applied to the highly trained specialist of today. Surgeons had little formal training in the academic sense. They were for the most part given practical instruction as apprentices in the treatment of wounds and the use of basic internal and external remedies. In those days before anesthesia, surgeons were taught of necessity to operate quickly and efficiently to mininize pain and blood loss. They were taught an eminently practical art, with little attention directed to physiological theories. Surgeons with a university degree were distinctly the exception. Although men like Steller,

Menzies and Ellis attended the university, they studied for the most part botany, not medicine. Each of them, however, easily passed the military surgeons' examination. A naval surgeon was trained in the same tradition as his army counterpart, but with more attention to special subjects such as scurvy, fevers and shipboard sanitation.

The physician of the period, on the other hand, had a totally different education and social station in life. Medicine was one of the learned professions, together with law and theology. A physician was one with an advanced university degree, for which he was required not only to attend a course of lectures but also to pass stringent written and oral examination, including the defense of learned thesis. Much of the course of study, including the thesis, was in Latin until the early 19th century. The subjects of the curriculum included chemistry, anatomy, physiology, materia medica, botany, the "institutes of medicine" and to a limited extent surgery and obstetrics. Concepts of physiology and anatomy dating back to Hippocrates and Galen were still widely taught and certainly still respected. A physician might choose to work as a military or naval surgeon, but a surgeon could never be accepted as a physician.

Several of the larger expeditions sought physicians as ship's surgeons because of their obviously greater knowledge, but also because they could double as naturalists and scientists. The learned Dr. Eschscholtz of the Kotzebue expeditions was an example as was Dr. Laband on the *Neva* and Dr. Rollin on the voyage of La Perouse.

Among the physicians and surgeons serving on these expeditions, a few made significant contributions to ethnography. Steller was one, though he had few contacts with the Native peoples. Merck made detailed observations of the Koniags and Aleuts, including some of considerable medical interest. Samwell, Roblet and Langsdorff also contributed limited but useful descriptions of the Natives of Alaska. The most notable of the early Alaskan surgeon ethnographers, was John Simpson, who left the classic early description of the Eskimos in and around Point Barrow.

Others were especially interested in animal life, among whom Steller stands pre-eminent for his descriptions of sea mammals and birds, and Eschscholtz, who left an account of marine life of various kinds. Still others were more botanists than medical men, for example Steller (again!) and Menzies.

Despite their differences in education and experience, nearly all ships' surgeons showed great versatility once faced with the hard but gripping reality of an expedition in subarctic and arctic waters. They cheerfully underwent hardship and deprivation. Two of them, Anderson and Capt. Meares' surgeon, actually died on duty in or near Alaska. Mootofkin was wounded in a battle with the Tlingits.

It is notable that the majority of ships' surgeons on the Russian voyages were German (Steller, Merck, Scheffer, Langsdorff, Eschscholtz, etc.), while many of the surgeons of British expeditions were Scottish (Anderson, Menzies, and Simpson). Among the reasons for this phenomenon are that in the 18th and early 19th centuries, Germany and Scotland were not only centers of medical education, but also frequently supplied their sons (including surgeons) to large standing armies of other countries.

Despite the youth of many of these men, several became intimates of the lonely captains they served. This closeness was possible because the surgeon, though under the captain's orders, was not a line officer who commanded men. Instead, the surgeon (especially if he were a physician) was an educated man of broad interests. Perhaps the captain also knew in his heart that the surgeon might someday publish an account of the voyage, as many did, and ultimately be a witness of the captain's ability. Be that as it may, we have a few examples of real warmth between Captain and Surgeon, despite a difference in years. Bering shared his cabin with Steller and demonstrated much patience toward his foibles, Cook showed genuine affection for Anderson, his dying surgeon, and Kotzebue had great respect and admiration for his scholary physician Dr. Eschscholtz.

Finally, as their captains anticipated, a number of the ships' surgeons and naturalists of the period published an account of their travels. In a few, the Bering and Billings expeditions for example, it is the surgeon's or naturalists's records (by Steller and Merck, respectively) that is our major record of the voyage. In others the surgeon's narrative adds important insights of the voyage from a different perspective, for example, the accounts by Samwell and Ellis on the third Cook expedition. In still other voyages, the surgeon's journal, though unpublished as such, contributed significantly to the official narrative (the case of Anderson or Robley).

All in all ships' surgeons played a significant role in the early discovery and exploration of Alaska. Their contributions were on many levels — as healers, naturalists, ethnographers, explorers, and as writers. They displayed a broad range of talents as well as of personality characteristics, and the accounts they have left us are some of the basic and indispensable documents that survive from the period.

Robert Fortuine, M.D.

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POST GRADUATE COURSES

Dec. 6-8	South Carolina Academy of Family Physicians 36th Annual Meeting. Hyatt on Hilton Head Island, Hilton Head Island, South Carolina. CME—19.5
Jan. 31 - Feb. 2	Recent Advances in Geriatric Medicine: Dementia in the Elderly. Holiday Inn at the Embarcadero, San Diego, California. Physicians — $210, Allied health professionals, residents and students — $140. Further information — Office of Continuing Medical Education UC San Diego School of Medicine, M-017, phone (619) 452-3940.

RISK MA

Emergency Medicine

"Emergency medicine" is a broad field. It has the potential to affect every doctor, regardless of specialty.

A physician, driving along an Alaska highway one night, first sees a bright pink flare, then makes out wreckage alongside the highway. She stops, and finds four injured persons. She renders care to the best of her ability at the scene.

A pathologist regularly visits a number of rural hospitals which cannot support a full-time pathologist. He is just leaving the lab when he is urgently called to direct efforts to resuscitate a patient in V-tach. The last time he assisted in such a case was while an intern in 1958. There is not another physician in the facility.

An emergency room physician sees a routine case of abdominal pain in an adolescent male who complains of nausea. The patient's temperature is slightly elevated, his white count is at the upper limits of normal with a normal differential. The pain is intermittent and not well localized. Confident that there is no emergent need for hospitalization, he instructs the parents as to how they should care for their son prior to discharging the patient to his home. Two days later the patient is again brought to the E.R. where he is now found to have a ruptured appendix.

"Emergency medicine" is a broad field. It has the potential to affect every doctor, regardless of specialty. It offers some of medicine's greatest rewards: a life saved by a cricothyroidotomy; a pulse which continues even after chest compression has ceased. From a risk management perspective, however, it is a field fraught with danger for the physician. Pain, impairment and disability may produce anger and denial in the patient after the emergency has passed. That anger may be directed towards the person most closely associated in the patient's mind with the lingering medical problems--the emergency physician.

To the medical profession, emergency medicine is a recognized specialty. To courts, disputes concerning the adequacy of emergency care are not particularly special. They are viewed, litigated and resolved in accordance with general principles of tort law. Those principles apply equally to architects and anesthesiologists, to realtors and rheumatologists. An understanding of a few fundamental tenets of the law will help a physician in risk management endeavors.

This is the first of a two-part article which will explore a few of the medicolegal implications of emergency medicine. After considering the protections provided to the "good samaritan", various theories of physician liability will be explored.

The Good Samaritan

In the early 1960's, a physician visiting the Virgin Islands from Massachusetts was called to the scene of an accidental electrocution. No local physicians were available, and the vacationing doctor tried valiantly but unsuccessfully to resuscitate the victim. As a last resort, he performed a thoracotomy and, unsuccessfully, attempted manual cardiac compression. He was subsequently charged by the Virgin Island authorities with practicing medicine without a license. An autopsy was performed, and the physician was advised that murder charges would be brought after the report was issued. He was allowed to return home pending further legal proceedings. When the Massachusetts legislature was advised of the horror story, it passed a "good samaritan" statute. Most states, including Alaska, have covered physicians by legislative umbrellas of one or another pattern.

The current Alaska statute reads as follows: (a) A person at a hospital or any other location who renders emergency care or emergency counseling to an injured, ill, or emotionally distraught person who reasonably appears to the person rendering the aid to be in immediate need of emergency aid in order to avoid serious harm or death is not liable for civil damages as a result of an act or omission in rendering emergency aid. (b) This section does not preclude liability for civil damages as a result of gross negligence or reckless or intentional misconduct.

To date, the Alaska Supreme Court has not been called upon to interpret the Good Samaritan statute.

To date, the Alaska Supreme Court has not been called upon to interpret the Good Samaritan statute. For that reason, an analysis of the statute must be somewhat conjectural. With this limitation, a dissection of the statute will help provide information about its coverage.

Who is protected? "A person"--anywhere in Alaska--falls under the statute's protection. Presumably, "person" includes doctors, nurses, and hospital technicians, as well as passersby. It may not cover "corporate" persons, even though the law views corporations as persons for most purposes. Therefore, a medical professional who renders emergency aid may be protected for his or her negligence, but a professional corporation rendering the same aid may not have that protection.

It is interesting to note that the legislature specifically intended to protect persons rendering emergency care in hospitals. Only if those persons are grossly negligent, reckless, or intentionally misconducting themselves will they be liable for harm which they might cause. The law does not require that the person be acting without compensation. The statute suggests, therefore, that an emergency physician, retained by a hospital to render such aid, will

AGEMENT

not be liable for ordinary negligence in emergency situations. It also suggests that an anesthesiologist or surgeon rendering emergency care during surgery would not be liable for ordinary negligence. Presumably, however, the court would examine the legislative history to determine whether these sorts of situations were of the type the legislature had in mind when it passed the statute.

When does the protection apply? A person is sheltered while rendering aid which reasonably appears to be needed in order to avoid serious harm or death.

The first requirement is that aid be rendered. A psychiatrist might opt to inform a patient threatening suicide that as a matter of professional policy no psychiatric intervention will occur. Let us assume this is done for a medically valid reason, and that such an approach is not necessarily considered unreasonable in the field of psychiatry. Unless it can be shown that such failure to act constitutes the rendition of emergency care, the psyciatrist's actions would be outside the scope of the statute. The psychiatrist would then be liable for a suit based on an allegation of negligence, were the patient to subsequently suffer damages in a suicide attempt.

The second requirement is that aid be rendered when, to the person rendering the aid, it seems reasonably necessary. A lay person may therefore be protected while providing unnecessary emergency care, while a physician might remain at risk while providing the same care. For example, a lay person might seek to transport an injured but stable patient, out of a mistaken belief that waiting for professional transportation may exacerbate the patient's condition. An injury occurring during transport may not be actionable, because of the Good Samaritan statute. A physician, however, would probably be held to a much higher degree of "reasonableness", and might be liable for damages for the same injuries.

It is important to note that the protection applies only if aid is being rendered to "an injured, ill, or emotionally distraught person." If the statute is literally construed, no protection is provided to the person who negligently provides aid to a healthy person. Suppose, for example, a physician removes a child from an automobile accident, in order to examine the child. Assume that the child is uninjured, but that the physician negligently injures the child during the removal process. If the statute is strictly construed, it provides no protection to the physician.

What type of protection is provided? A person rendering emergency aid is safe from civil liability. In other words, he or she is safe from having to pay out money damages. Criminal liability, on the other hand, is not covered by the statute. A person who negligently administers saline instead of glucose to a baby may be safe from the threat from a suit seeking an award of dollars, but not from an action brought by the state seeking a fine or imprisonment.

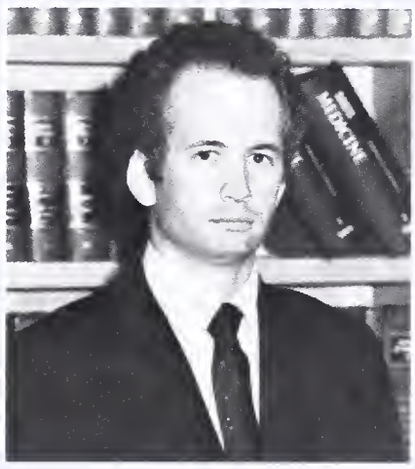

PHOTO BY CHRIS GIBBS

It is difficult to predict with certainty how a court would interpret Alaska's Good Samaritan statute. Reported cases construing such laws are hard to find: either the cases are not brought, or they are disposed of before making it to an appellate court for decision. It may be anticipated, however, that courts will look favorably upon a well-intentioned person seeking to aid another, where the rescuer makes every effort to act reasonably under the circumstances. It is doubtful, though, that a physician who is being paid to render medical services to a patient would fall under the statute's shelter, should the patient later claim that the service was negligent. The court would probably hold that the legislature was intending only to abolish liability for persons not otherwise under a duty to render aid.

It is doubtful, though, that a physician who is being paid to render medical services to a patient would fall under the statute's shelter.

Lee S. Glass, M.D., J.D. — has addressed numerous groups on risk management. Most recently he addressed the international College of Surgeons and the Department of Orthopedics, University of Washington School of Medicine. Glass practices law with Faulkner, Banfield, Doogan & Holmes in Anchorage and Seattle. He is also obtaining postgraduate medical training at the University of Washington.

EDITORIAL

Granting that Koch's rigorous postulates are not strictly applicable to non-biological agents, nevertheless, to illustrate how far we have progressed since the times of Dr. Koch, we are printing a typical example of the popular environmentalist expositions postulating that any number of known or imagined industrial chemicals might cause cancer and that no effort or financial outlay is too great to eliminate the hypothetical risk of such cancers. Not specific cancers, mind you, like chimney sweepers scrotal cancer. No, just any old kind of scary cancers, sometime maybe years and years from now. And as if the poisons already out there were not bad enough, the spectre is raised of further toxic fallout from future industrial expansion this potentially bankrupt, oil dependent state can only wistfully hope for.

If this hulabaloo served only to swell the already overwhelming scientific literature, little matter. Unfortunately, such stuff is welcome fodder for the media, where truth is of but incidental concern; resultant media hype stirs politicians and the bureaucracy into frequently foolish overreaction, where people often do get hurt, or major social injustice results.

Here in gridlocked Anchorage the Municipal Environmental Health Department supported the Assembly, greedy for EPA-threatened Federal matching funds, by gloomily forecasting dire illnesses from our monoxide polluted air. On nice days Departmental personnel can usually see clear to McKinley from their office windows. No matter. With bandaid sop to the EPA, perfectly law-abiding Anchorage motorists will now waste millions of dollars and hours annually in pointless ineffective emission inspections.

Other unsubstantiated predictions of fractured chromosomes and unspecified cancers forced hundreds of folk from their Love Canal homes, disrupting their lives and at huge expense. Agent Orange veterans, claiming all manner of ailments, reaped an $180 million settlement. The alleged culprit in both instances is dioxin.

Now, that the dioxins are bad stuff is unquestioned; just a dab will snuff a guinea pig — if ingested. But the human situation is another story altogether. Years after documented heavy exposure the citizenry of Saveso, Italy have shown no clearly dioxin-related cancers or other major health problems other than chloracne, itself the main marker for heavy exposure. The Love Canal population has shown no major health difference from a control population. CDC has found no definite evidence of any disease related to Agent Orange exposure. In fact, no excessive cancer incidence has been proven in any exposed group (1,2,3,4). The fantastically expensive ruckus there and in Times Beach erupted because of the supposition only that dioxin might cause cancer, or birth defects, or something, sometime.

In May a federal judge leapfrogged the frontiers of science by pinpointing which cancers were and which were not caused by radioactive fallout from the Nevada tests. Considering the lack of precise fundamental scientific understanding of the mechanisms acting in radiation-associated malignancy, much less specific neoplasms (5), this feat would seem more than difficult for him without the radiation fears, hyped by the media, supported by unprovable statements from medical experts (6).

The great Alaskan asbestos cleanup carries a projected price tag in excess of $50 million. An interesting comparison is that the entire state budget the first year of statehood was $37 million. If there is a health hazard there making the cleanup a cost-effective effort it certainly is not apparent from the current minimal incidence of asbestos-related disease. Or, put another way, if a serious health hazard is there, the multi-thousands of schoolkids who have completed their exposure will provide us with quite an epidemic of mesotheliomas in years to come. Is anyone really holding his breath?

We could go on and on of course. The point we are getting at is that doctors, just because and only because they are doctors, have no business going about hypothesizing future major maladies, validating their conjectures by an MD stamp of approval.

None of this is to be taken as toleration of serious pollution, particularly clear and present pollution immediately threatening our food, water and health. It just must be put into balance and perspective. We will always have pollution since people pollute and also since noxious environmental agents are not only man made. St. Helens and El Chichon have done their dirty work; it is a moot contest between acid rain and Dutch Elm disease or gypsy moths; the worst case scenario for PCB's vanishes beside the ecological and social consequences of El Nino; and a case could be made that the uncontrolled population of humankind itself is the worst pollutant to ever strike the planet.

The environmental epidemiologists have one thing in common: namely, belief that cost is no object, at least as long as it is somebody else's money; and that cost effectiveness is largely irrelevant. Unfortunately, for such dream stuff, resources are not unlimited. We have enough real problems here and now without raising groundless fears of future health horrors and draining our resources chasing, and litigating, medical phantoms.

Win Fish, M.D.

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ASMA AUXILIARY NEWS

National Auxiliary President Comes to Alaska

Billie Brady, President of The American Medical Association Auxiliary, visited the state's local auxiliary from September 20-23. The guest speaker at the ASMA Auxiliary annual salad luncheon addressed members at the home of Lyndia Tschopp. She discussed her vision for the year's goals through the AMA Auxiliary. Specifically, she was committed to improved pre-natal care for the increasingly younger females becoming pregnant. Billie also felt it was appropriate that the Auxiliary support its own members who are in need. It could be through the impaired physician program, aiding the families of physicians under stress of a malpractice suite, by spreading the wealth of written, taped, and filmed information available from national headquarters.

A member of her county Auxiliary in Greenville, S.C. for 28 years, Billie has held several positions with Southern Medical Association "Auxiliary. She is featured in Who's Who In The South". Her husband, Wayne, an orthopedic surgeon, accompanied Billie to Alaska. They were treated to an airplane trip to Mount McKinley and a Salmon bake before departing. They described the geography they saw as "thrilling". Billie felt she left with a much clearer idea of what our Auxiliary's needs and goals are.

Patrice Gerster
President, ASMA

1985 ASMA State and ASMA Auxiliary Convention in Haines

Plans are under way to make the 1985 State Convention in Haines, the best convention ever. The dates are June 5-8, Wednesday through Saturday. Our hosts, Stan and Pat Jones, are already hard at work organizing the event. Possible Auxiliary activities promise to be exciting, with museum tours and speakers, Arts and Crafts shopping, Indian dances and a salmon bake, boat ride to Skagway, breakfast hike with panoramic views, plus lots for the children to do. So mark your calendar now and plan not to miss 1985 convention.

Lorrie Horning
President, ASMA Auxiliary

ASMA Auxiliary President is Honored Nationally

Each year the Department of Health & Human Services recognizes citizens in the northwestern states with the "People Helping People in the Northwest" Distinguished Volunteer Award for outstanding volunteer service. One of the recipients this year is Lorrie Horning, present president of the Alaska State Medical Association Auxiliary.

Lorrie spearheaded a program while serving as president of the Anchorage Medical Association Auxiliary for an infant car seat lending program. She traveled many miles in other states working greater than 40 hours per week to get the program off the ground. Lorrie proposed through a 40 page document guidelines for getting monies from the community to purchase infant car seats.

The program was initiated in Anchorage in 1983, with volunteers working through area hospitals. In its first year, the program loaned out 1,700 infant car seats. It is presently a successful ongoing service.

When Lorrie first arrived in Anchorage she saw a need for children to learn self-expression so she developed an Alaska Junior Theater. She drew on her experiences of a program in Minneapolis, Minnesota. The project has been a success giving 4 performances each year.

Lorrie is also a member of the advisory board of Rodgers Park Community School while working on her Masters in community education at the University of Alaska. She is a dedicated wife and mother of two sons.

Lorrie has an uncanny ability to see a need, draw on her own as well as others experience, then follow through to create a successful program.

Our community is fortunate to have such a person! Congradulations Ms. Horning and keep up the excellent work.

Wm. H. Bowers, MD
Editor

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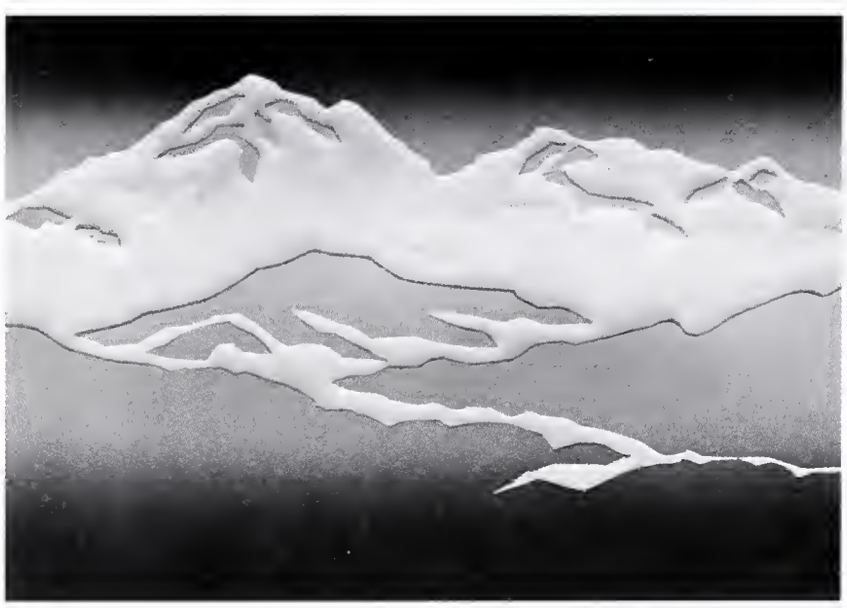

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Two days before the test, you begin a diet you might enjoy all the time. Plenty of fresh vegetables raw or cooked, especially corn, spinach and lettuce. Lots of plums, grapes, apples and prunes, moderate amounts of peanuts and popcorn. No red meat, turnips or horseradish. Do's and don't's are listed in the kit.

The presence of hidden blood usually indicates some problem in the stomach or bowel, not necessarily cancer. Positive tests must be followed by further testing to find out what the problem is.

Other tests for colorectal cancer you should talk to your doctor about: Digital rectal exam (after age 40); the procto test (after age 50). It is important to report any personal or family history of intestinal polyps or ulcerative colitis, and any change in your bowel habits, which could be a cancer warning signal.

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- More total sleep time[1-6]
- Undiminished efficacy for at least 28 consecutive nights[2-4]
- Patients usually awake rested and refreshed[7-9]
- Avoids causing early awakenings or rebound insomnia after discontinuation of therapy[2,5,10-12]

Caution patients about driving, operating hazardous machinery or drinking alcohol during therapy. Limit dose to 15 mg in elderly or debilitated patients. Contraindicated during pregnancy.

DALMANE® Ⓝ
flurazepam HCl/Roche

References: **1.** Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res* 9(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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DOCUMENTED IN THE SLEEP LABORATORY[1-5]...

PROVEN IN THE PATIENT'S HOME

FOR A COMPLETE NIGHT'S SLEEP

DALMANE®

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STANDS APART

15-MG/30-MG CAPSULES

See preceding page for references and summary of product information.

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SUBJECT INDEX